

Standardization

News Magazine of the American Standards Association, Incorporated



FEATURED —
Scientific Periodicals

Procurement
Kitchen Utensils

Building Codes
JANUARY 1950

In Two Parts — Part I

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Company Members—More than 2100 companies hold membership either directly or by group arrangement through their respective trade associations.

Marginal Notes

Happy New Year!

STANDARDIZATION presents a new face to the world this month. We think you will like it because it offers possibilities for a number of variations—and if your reaction was the same as ours, you got pretty tired of looking at the same design and color month after month.

We decided that our cover was a place where standardization had been carried too far. So we set out to do something about it. One design for the title was a modernistic swash lettering that would have graced a book by Ludwig Bemelmans. The editorial department thought this was beautiful. Proudly we displayed it to our engineering staff. The reaction was prompt and unanimous—thumbs down. The reasons were all too good to be ignored. So the present lettering, while not as unique, has all the virtues of beauty, legibility, dignity, and appropriateness to the subject of the title—standardization.

The tint blocks, which give the all-over color effect, are also standard, providing all the advantages of standardization, including a basis for variation. The same tint blocks will be used as the background for different colors each month appropriate to the subject of the picture.

To otherwise clean up the appearance of the cover, we are referring to our featured articles by catch titles rather than giving them in more complete form. We think they will catch your attention more quickly in this new design than in the old.

With this new approach to 1950, the staff of the American Standards Association wishes all the readers of STANDARDIZATION a Happy and Prosperous New Year.

The ASA Influences Better Cooking

Your wives may be interested in this issue of STANDARDIZATION. Perhaps they have already seen articles about the new cooking utensil standards in their favorite newspaper col-

um on homemaking. It has been picked up widely. The home economics gals who are backing it lead us to believe that the story may also appear in some of the leading women's magazines early this spring.

An Active ASA Board—

When not taking an active part in running their companies and their industries, the new members of the ASA Board of Directors (page 17) work at hobbies that keep them on the move. Golf is the one hobby all have in common. In addition, Mr Stanley reports he has an interest in sailing; Mr Voorhees in bowling as well as YMCA work; Colonel Vincent has piloted planes since 1917 and has raced motor boats for a number of years. Speaking of standardization, Mr Voorhees comments: "It seems to me it is far better for industry to carry forward its own program of standardization rather than to leave it to governmental agencies."

Our Front Cover

Procurement plays an important part in assuring the perfect fit between the in-car speaker case and microphone that is demonstrated in our cover picture taken in RCA's Camden factory. On page four of this issue, Vincent deP. Goubeau, vice-president in charge of the Materials Department, RCA Victor Division, Radio Corporation of America, gives an expert's views on "What Procurement Expects from Standardization." He explains why the purchasing agent is one of the chief boosters of standardization and always willing to take an aggressive part in the organization of his own company's standardization activity. He shows how standardization with common nomenclature avoids duplicate buying, shipping, handling, and stocking of many different items when one can suffice. RCA, Mr Goubeau says, is constantly striving to adopt officially the industry and American Standards and to adhere to them in RCA specifications. "When such standards are available," he relates, "our path is easiest and most straightforward. RCA Victor Division photo.

Opinions expressed by authors in STANDARDIZATION are not necessarily those of the American Standards Association.

Vol. 21 No. 1 **Standardization** January 1950

Formerly Industrial Standardization

Published Monthly by **AMERICAN STANDARDS ASSOCIATION**
INCORPORATED

70 E. 45th St., N. Y. 17

Standardization is dynamic, not static. It means not to stand still, but to move forward together.

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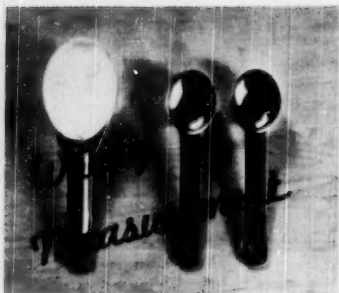


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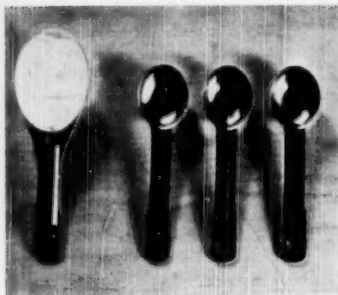
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Single copy, 35¢. \$4.00 per year (foreign \$5.00). Schools and libraries \$3.00 (foreign \$4.00). This publication is indexed in the Engineering Index and the Industrial Arts Index. Re-entered as second class matter Jan. 11, 1949, at the P.O., New York, N. Y., under the Act of March 3, 1879.



Photos from Calumet Baking Powder



Demonstrated above is one good reason why home economists wanted standardization in the field of home cooking and baking utensils. A check on measuring spoons showed that some were so far off in measurement as to give the housewife two teaspoons of baking powder instead of three in her tablespoon measure. The resultant baking failure is shown upper left. General Foods supplied the picture of the luscious cake at the bottom, made, of course, with correct measurements.

Home Cooking and Baking Utensils

—Why a Standard Was Needed and Developed

A NEW American Standard with an impressive name has just come off the press and is getting more than a slight nod of approval from home economists all over the nation — the American Standard Dimensions, Tolerances, and Terminology for Home Cooking and Baking Utensils, Z61.1-1949. More simply, the standard sets forth definitions of and dimensions for the ordinary variety of pots and pans, glassware, and other home cooking utensils. The resultant advantage will be to the harried housewife in the form of simplified cooking and fewer "recipe failures."

Home economists working on recipes became aware of a cooking utensil problem five years ago. Best results in using their recipes could only be obtained by using the same size pan that had been used in preparing the recipe. Too small a pan meant a cake too thick and not thoroughly baked. Conversely, too large a pan meant a thin cake and overdone baking. How were homemakers to overcome this problem when faced with a bewildering array of shapes and sizes for each type of baking and cooking pan?

The American Home Economics Association tackled the problem through its Home Economics in Business department and formed a subcommittee for study headed by Miss Elizabeth Sweeney of *McCall's Magazine* as chairman. The members of the committee represented an impressive group of organizations concerned with manufacture and use of cooking utensils. They were: Ellen Ann Dunham, General Foods Corporation; Edna Gaul, Club Aluminum Products Company; Julia Hunter, Lone Star Gas Company; Lucy Maltby, Corning Glass Works; Virginia Schroeder, General Foods Corpora-

tion; Lucille Schuster, Aluminum Cooking Utensil Company; and Mabel Sherrill, West Bend Aluminum Company.

The subcommittee's two year study brought to light adequate evidence to prove the need for standardization in the field of manufacture of these home cooking utensils.

Something definitely should be done, they discovered, about terminology—for instance, when did a

Copies of the American Standard Dimensions, Tolerances, and Terminology for Home Cooking and Baking Utensils, Z61.1-1949, may be obtained from the American Standards Association, 70 East 45th Street, New York 17, N.Y. at 35 cents each. Special reductions in price for lots of 10 or more.

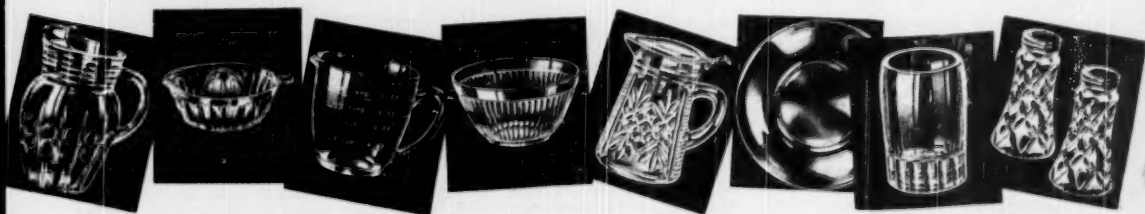
frying pan become a French fryer? With standardization of the terms the housewife could recognize the French fryer for "an uncovered cooking utensil with a perforated, meshed, or sieve-like insert basket with one handle," whereas the frying pan "is a shallow, covered or uncovered pan with one handle."

But their study showed that confusion didn't stop with terminology. It seemed that a variety of methods were in use for measuring cooking utensils. Then the best ways of measurement were considered. Should a pan be measured on the outside or on the inside? Should it be measured to the very top or should it be measured according to the actual capacity of the pan? In stating the dimension, should the depth, the width, or the length be

stated first? Could any tolerance be permitted or must measurements be exact?

In studying measuring cups and spoons the subcommittee bought samples on the retail markets and tested them for accuracy. They found that more than 75 percent varied considerably from the recommended accuracies set up by the National Bureau of Standards in 1926. Some of the measuring spoons were at least 10 percent inaccurate. One was off by over 40 percent. Cakes and muffins baked after using these inaccurate spoons for measuring baking powder were barely acceptable.

The subcommittee submitted the accumulated data in a report to the AHEA which in turn requested that the American Standards Association bring together groups interested for the development of a nationally acceptable American Standard. A little less than a year ago a conference took place at which representatives of various groups considered the AHEA recommendations. The manufacturers told the home economists what styles and sizes of baking pans are on their sales lists and which of them are selling most widely. Hospitals and hotels cited specific needs of big users. Manufacturers explained their problems; why it is difficult and expensive to make measuring cups and spoons to the exact sizes requested. Organizations that were represented in the American Standards Association Conference that approved the new American Standard were: Aluminum Wares Association; American Association of University Women; American Council of Commercial Laboratories; American Federation of Labor; American Glassware Association; American Home Economics Association; American Hospital Association; American Hotel



Anchor Hocking Glass Corporation

Association; Congress of Industrial Organizations; Enameled Utensil Manufacturers Council; Grocery Manufacturers of America; Limited Price Variety Stores Association, Incorporated; Mail Order Association of America; National Association of Educational Buyers; National Electrical Manufacturers Association; National Retail Dry Goods Association; Society of the Plastics Industry, Incorporated; U. S. Department of Agriculture—Bureau of Human Nu-



trition and Home Economics; U. S. Department of Commerce—National Bureau of Standards; U. S. Department of Labor—Bureau of Labor Statistics. In addition, the tinware manufacturers were represented through a special tinware group, and a representative of the Revere Copper and Brass Company served for the copperware group.

The new standard actually amounts to a pioneering job. For the first time, standard definitions are available for different types of cooking utensils, and standard sizes of baking pans for the guidance of manufacturers and recipe makers have been agreed upon. Equally important is setting down of the amount of deviation permitted from standard sizes for measuring cups and measuring spoons. The acceptable variation has been set at 5 percent for measuring equipment, and $\frac{1}{4}$ of an inch on all sizes of baking pans. The new standard has also determined that henceforth all measurements on pans will be made on inside dimensions. It is also recommended that a mark showing the sizes be placed on all baking pans; a permanent mark, if possible, or at least a temporary sticker when sold in retail stores.

The Conference representatives agreed unanimously on the standard and included a specific recommendation that the sizes of baking utensils listed should be used in developing recipes. They have also called upon the manufacturers to include these utensils or utensils of like dimensions and approximate shape among their products. Many manufacturers have already agreed to change over to the standard sizes and styles as their present molds wear out. The manufacturers who have worked with

(Continued on page 11)

Homemakers' Friend— The American Home Economics

A S ONE of its activities to develop and promote standards of home and family life that will best further individual and social welfare, the American Home Economics Association actively participates in the development and promotion of standards in the interest of better economics in the home. The AHEA's interest in standards stems from its belief that articles for the consumer should be of a quality that can be depended upon and that the homemaker can use the family's resources to best advantage if she can select the equipment and materials she buys on the basis of factual information.

Recently, the AHEA was responsible for putting this principle into effect in backing the work on the American Standard Dimensions, Tolerances, and Terminology for Home Cooking and Baking Utensils, Z61.1-1949, recently approved by the American Standards Association (see page one). The work done by the AHEA on this project will, of course, be reflected in every kitchen in the United States. It is significant not only for this reason but also because it offers a particularly good example of the type of work and the methods followed by the Association.

Convinced that women were being confused by the variety of sizes and shapes of cooking utensils on the market, and by the various methods

facturers and distributors can supply, the AHEA asked the American Standards Association to organize a sectional committee through which all the groups concerned could coordinate their recommendations. The result of this agreement is the new American Standard.

This is not the first time the AHEA has worked with the American Standards Association. For 20 years, since January 1929 when it first joined the ASA as a Member-Body¹, it has been active in the national standards program. It was, in fact, the AHEA's interest in consumer goods which led the ASA to broaden its activities to include standards for consumer goods.

Organized in 1903, the American Home Economics Association has taken a leading part in many of the



movements, which are taken for granted today, for the protection of the public. One of the outstanding examples is the Food, Drug, and Cosmetic Act. The Association is credited with a leading part in bringing about congressional action on this, and has been a wholehearted supporter of the Food and Drug Administration.

It is no exaggeration to state that the AHEA is the key organization in the consumer movement. Because its home economist members are technically trained, they are able to represent the consumer viewpoint and discuss problems of manufacture and distribution in the terms used by technically trained representatives of other groups. This technical knowledge was translated for the use of homemakers in the "when you buy"



used in measuring sizes as well as in describing them, the equipment committee of the home economics in business department of AHEA made a study of cooking utensils offered to the public. The survey also included measuring cups and spoons. The study took two years and covered terminology, measurements, and marking. From the results, the committee worked out a proposal which in their opinion would give homemakers the type of equipment and the information about it that they need. To bring about agreement between the ideas of the home economists and what manu-

¹ The Association has just returned to the active voting status of Member-Body after a period in the nonvoting status of Associate member.

Association

pamphlets formerly issued by the Association, and the influence of its interest has helped to convince manufacturing and distributing groups represented on committees on which they work that consumer groups need the information for which they are asking.

Standardization is only one phase of the program of the AHEA. But through its 20,000 members in the many branches of the home economics field and through its publications, the work on standards that the Association does is made available to families throughout the nation and to home economics classes.

Carrying out the work are members of the Association's departments, representing the groups into which the membership falls—colleges and universities, elementary and secondary schools, extension service, Farmers Home Administration, home economics in business, home economics in institution administration, homemaking, research, social welfare and public health, and college clubs.

The special interests of the members are covered by the divisions—art, family relations and child development, family economics—home man-

agement, food and nutrition, housing, and textiles and clothing.

Although the textile and clothing division pioneered in the work of promoting a set of standards for consumer goods, it soon became apparent that all divisions of the Association were vitally concerned. To satisfy this need a committee gradually developed and is now known as the consumer interests committee.

A national project of the Association, called the *Consumer Speaks Project*, giving every home economist an opportunity to demonstrate what can be accomplished through unified effort, was launched by the consumer interests committee in 1945. The surveys conducted included the study of preferences in selected items of



household equipment, clothing, and foods.

The *Consumer Speaks Project* gives consumers the opportunity to express preferences, aids in their education to be better buyers, and gives them a chance to strengthen their influence over the goods placed on the market. The results of the survey have been available to producers,

manufacturers, and retailers. More than 100,000 consumers in almost 4,000 groups have participated. The consumer interests committee believes that what has been done at the national level should be even more effectively carried out at the state and local levels, arousing industry and more consumers to action.

Local and national meetings help to publicize this work, in addition to the professional and popular publications published by the AHEA. Two of the best known of these are the *Journal of Home Economics* and the formerly published *Consumer Education Service*.

Many of the goals of the AHEA are reflected in the proposed legislative program for the coming year presented for consideration by the Association at its annual meeting. This proposed program would commit the Association to support the following:

1. Appropriations to enable the Bureau of Human Nutrition and Home Economics to develop and expand its proposed program.
2. Activities within federal agencies bearing directly on improvements in family welfare and in the field of home economics; for example, the Women's Bureau, the Children's Bureau, the Office of Education (dealing with home economics education), the Office of Experiment Stations (involving research in home economics), the home economics division of the Co-operative Extension Service, and the home management program of the Farmers Home Administration.
3. Programs entailing consumer protection in the Food and Drug Administration, the Federal Trade Commission, and the antitrust division of the Department of Justice.
4. Legislation aiming to promote thrifty buying of consumer goods and distribution of informative material to stimulate intelligent buying.
5. Legislation to provide an adequate program for school lunches (such legislation shall include provision for nutrition education and supervision of the program by home economics trained personnel).
6. Legislation to protect children, to safeguard maternal health, to improve conditions in tax-supported mental and corrective institutions, and to improve the general health and welfare of the people.
7. Legislation to enable all children to have equal educational opportunities and to encourage education in home economics.
8. Legislation to promote research in housing and to develop programs for adequate housing of low-income groups.
9. Legislation to facilitate the international exchange of home economics information and information for the betterment of home and family life.
10. Legislation to facilitate the economics reconstruction of war-torn countries, thereby helping to preserve peace.

(Continued on page 7)



With standardization of nomenclature, different types of baking pans and top-of-stove cooking utensils can be precisely identified. Frying pan showing egg cooker, at right, courtesy of Lewis and Conger, New York City; stainless steel pans shown individually above on both pages, courtesy S. W. Farber, Inc.

THE objective of good procurement is to obtain required commodities in the proper quantity, in the best available quality, at the lowest possible price, at the time needed. The existence of standards in the fields involved invariably assures that these conditions will be met. Specials, on the other hand, introduce problems of availability, higher cost, quality and uniformity problems due to inexperience and the lack of adequate field performance data. When a special run is necessary, it is often advisable to purchase in much greater quantity than that indicated for exact current needs. This practice is dictated by unknown shrinkage factors and anticipated additional requirements. A standard item, in many cases, may be procured in exact quantity from stock and additional quantities handled on a quick delivery basis when, as, and if, they are required.

The alert purchasing agent is constantly striving to avoid the procurement of special materials. He is ever searching for acceptable standards to fulfill the requirements which become his responsibility. He finds that the efforts of an aggressive standardizing activity in his company's organization are a great help.

The design engineer is usually the man who initially specifies the commodities which procurement must ultimately obtain. His interest lies in the development of the products

What Procurement Expects

by V. deP. Goubeau

assigned him. His concentration, naturally, is in the accomplishing of his objective; in each case, if possible, an accomplishment that will be hailed as a significant milestone in the art—a better radar which will scan the ships at sea; a television set which will bring greater comfort and pleasure to the home; or an automobile which will, figuratively speaking, drive itself. In proceeding with this development, he will usually make good use of the well-established, known standards that are available to him. Normally, however, he has a flair for the individualistic touch and specials frequently appear in the picture, interesting to be sure, but questionable when viewed in the light of practical need. It, therefore, becomes a problem to guide engineers in the full effective use of standards and at the same time avoid discouraging the free and unrestrained use of his imagination, which is required if we are to progress. The washing machine on the drawing board today is the procurement activity and the production line of tomorrow. In talking with our purchasing people, I constantly stress the importance of realizing this fact and, therefore, urge that all possible effort be made to influence the use of standards in the early development stage. Cooperative effort between

engineering and purchasing can greatly simplify the work of procurement when the production plans are made.

It is not so long ago that few people attached any importance whatever to standardization in the field of research. Many of you this year have had an opportunity to tour the RCA Laboratories at Princeton and have seen at first hand the extent to which standardization has been applied to that activity; freeing the scientists of burdensome detail, leaving more time for pure research and expediting objectives. I am sure many other research operations are capitalizing in the same manner on what standardization can do.

Applicable Standards

We are all interested in the success of our companies and industry. It follows, therefore, that we are interested in placing on the market an up-to-the-minute quality product at the lowest possible cost. The full use of all applicable standards may go a long way towards the assurance of an acceptable product at a competitive price. Not too long ago in RCA we availed ourselves of an opportunity to apply every possible advantage of standardization in connection with a new product we were introducing. Our purchasing people went to the producers of the various items involved in the manufacturing and packaging of the product, and succeeded by close coordination with design engineers and sources in introducing standards throughout. Result was rock-bottom cost and quick availability. We were in production much sooner than had we designed to specials. This demonstrates what may be accomplished through overall close coordination between engineering, standardizing, purchasing, and sources of supply.

Procurement looks to standardization for the guidance which will result in proper balance between the rejection of specials on the one hand and the recognition of progress on the other. A development engineer may be open to criticism in either direction; inadequate use of established standards or pressing a standard into use when creative effort is needed. A purchasing agent constantly driving for standards may also be short-sighted in refusing to

This paper presented in the Company Member Conference of ASA 1949 Annual Meeting.



RCA Victor Division

Final linearity adjustments are made on these console television receivers. Test patterns from screen are checked from suspended mirrors.

from Standardization

fully appreciate the importance of encouraging progress when new and unique materials and components may introduce a lucrative field. The special of today may be the standard of tomorrow. Many industries can look back through the years and recognize the truth of that statement. Proper balance, therefore, is most important.

I am pleased to tell you that in my own company constant effort is made to officially adopt available JAN, industry, and American Standards, and to adhere to them in RCA specifications. When such standards are available, our path is easiest and most straightforward.

Many of us, perhaps most of us, are concerned either directly or indirectly with the procurement or manufacture of raw materials and components for military end use equipment. I should like to dwell on this very important field of standardization and the resulting procurement problems because the principles and basic requirements involved apply as well to purely commercial pursuits.

Although much excellent work has been completed cooperatively by industry and the military to the extent that a solid foundation has been laid, the status of standardization is far from satisfactory. The task of erecting a gigantic, unified, superstructure lies ahead. As you proceed with this work, it is important to bear in mind that that which is accomplished for the military often applies as is or with but minor modifications to commercial uses.

The basic principles of military logistics emphatically dictate the ultimate fulfillment of what we in procurement expect of standardization. Simply stated, we want requirements set forth clearly and thoroughly on standards and purchasing specifications. We want the specifications and standards in their entirety to be realistic and practical so that the process of establishing sources, eager and willing to supply competitively, will be a normal one. We want the cumbersome waiver and



Reliable performance is assured by competent testing and alignment.

substitution system reduced to an acceptable practical minimum.

It is a healthy and progressive practice to set an ideal goal of quality and performance in a specification—it is a hopeless practice, however, if in the same pages and at the same time the door is not left open for industry to provide the best known to the art.

There are numerous examples wherein exemplary coordination and cooperation between industry and the Armed Forces have resulted in specifications and standards which have fulfilled quality requirements and

have created no problems of procurement. You are more familiar with such examples than I. There are other cases, however, that have proved to be continuing headaches to manufacturers, users, and the military. JAN-S-23, covering toggle switches, is a good example. The inclusion of a humidity cycling test, incompatible with dependable production, has aroused the antipathy of many sources. Procurement has been consistently impossible without qualifying waivers. The specification has been identified with an endless chain of time-consuming, burdensome litigation. Other examples can be given, I'm sure.

Standardization with common nomenclature avoids duplicate buying, shipping, handling, and stocking of many different items when perhaps one will suffice. We don't want to find ourselves involved in the procurement of one or more items, sometimes on an emergency basis, when

V. de P. Goubeau, vice-president in charge of the Materials Department, RCA Victor Division, Radio Corporation of America, is well qualified to talk on "What Procurement Expects of Standardization." In his work he is concerned with the broad aspects of procurement, traffic, warehousing, inventory control, and material handling, in all of which standards play an important part. He is a member of the National Association of Purchasing Agents.

that which is required is on hand or readily available under another identification. Most assuredly, no commander wants to tolerate hampered or delayed operations waiting for material to come up when it is on hand under one or more other identifications. Unfortunately, as we all know, that happened in too many instances during the last war. It must not continue to happen, and the burden is largely in the lap of standardization.

Now as to instrumentation—it appears obvious, upon analysis, that you in standardization, through the years, have developed organized methods and procedures which, if fully exploited and objectively applied, should enable you to make rapid progress into the areas where more standardization is needed and in the comparatively virgin fields where little, if anything, has been accomplished.

By instrumentation I mean the standardizing activities in hundreds of companies which you gentlemen represent. I also refer to the hundreds of technical and trade associations embracing every sphere of industrial interest to which you, as companies or groups of companies, submit projects for standardization. This is a healthy condition and one full of tremendous potentialities.

I should like to mention a few specific areas in which standardization can do much to eliminate current problems in procurement.

One tool that stands out prominently is the "preferred types" practice, which has already been used advantageously by several companies and has paid off handsomely to both manufacturer and user. An excellent example is the "Preferred Tube Types List" sponsored by my own company, The Radio Corporation of America. Through the years, with the rapid advancement in the electronics art, tube types pyramided and today the total runs in the thousands. In tube manufacturing, the problem of serving all customers, many with small quantity requirements of a large number of different types, became untenable. It was impossible to operate efficiently and to offer attractive prices. Too great a variety of raw materials had to be procured, each in small uneconomical quantities; too much factory space was required for a vast collection of facilities; too much time and expense were involved in set-ups for short runs; in most types it was impractical to develop stocks for immediate delivery.

"Preferred Types"

From the total, a carefully selected small list of "preferred types" was developed. We can now manufacture more efficiently for customers' schedules and for stock. Our production rate on preferred types is more uniform because of long runs and smaller demand for other types. Few-

er types mean better delivery and insure uninterrupted production of electronic equipment in customers' plants. The preferred types permit the standardization of fewer associated parts required in the plants of our customers, such as sockets, capacitors, resistors, etc., and standardization, of course, results in purchasing and stocking economies.

Recently, a representative of an RCA supplier visited our standardizing people with a plea that RCA do something to standardize a selected or preferred list of his company's products for use on electronic equipment. The product is an important one, but does not involve an appreciable annual dollar volume. Admittedly, through the years, RCA, like hundreds of other using companies, has demanded a wide variety of parts from this industry. Nevertheless, a few very pertinent questions applied. One, with reference to one or two large quantity items currently being procured, how much lower in cost would they be if selected from a preferred list? Two, what has your company, as a manufacturer or together with other companies in your industry, done to standardize your product in such a manner as to greatly improve your own efficiency and to place you in a position from which you can offer RCA and other companies significant economic advantages? The representative could advance no encouraging answers to these questions. Actually, in the industry I speak of, a golden opportunity exists if someone will but act on it.

How many companies represented here are struggling with an unwarranted variety of similar products; warehouses loaded with tools, jigs and fixtures instead of stock; staffs of handling personnel and set-up and knock-down personnel spending more time on production equipment than the production operators themselves; customers yelling for delivery and better prices? There's gold in the hills, and I would suggest that, through standardization you start digging or rather continue digging with renewed vigor.

Not only must progress continue to be made in standardization of product or material, but I am sure there is an equal opportunity in draftings practices. In dealing with its many sources, procurement ultimately must have a single engineering language used on the blueprints that convey to a manufacturer the requirements of the user. Procurement must be freed of the burden of interpretation associated with the

(Continued on page 19)



RCA Victor Division photo by F. S. Lincoln

Standard parts and procedure are employed in the metal tube spray section.

Proposed Support For Modular Coordination

THE problem of providing technical services for modular coordination has been dropped in the lap of the American Institute of Architects and the Producers' Council. This was done by the special finance committee appointed following a conference of representatives of building material manufacturers, contractors and architects in October (see *STANDARDIZATION*, November, 1949, page 311). Meeting November 15, the special committee voted to recommend to the Joint Committee of the American Institute of Architects and the Producers' Council, Incorporated, that it "develop a plan by which the American Institute of Architects would provide an assistant, in the Department of Education and Research of the Institute, who would serve as secretary of ASA Committee A62, and implement the educational program previously recommended by the Joint Committee of the Institute and the Council."

Urge Use of Facilities

The committee also recommended that this assistant utilize the facilities related to modular coordination offered by the Housing and Home Finance Agency.

As explained at the conference which recommended appointment of the special committee, although many large builders have been able to buy modular materials and products because of the size of their orders, architects and contractors on small jobs have frequently found it impossible to carry out their plans because modular products have been unavailable as standard items.

Standards for building products and materials are being developed through Project A62 under the procedure of the American Standards Association, with the ASA and Producers' Council as sponsors. An American Standard Basis for Coordination of Dimensions of Building

Materials and Equipment and an American Standard Basis for Coordination of Dimensions of Masonry have been in use for some time. In addition, American Standard modular sizes have been worked out for clay and concrete modular masonry units and for clay flue linings. The work of A62 subcommittees on other specific building materials and products is making little headway because of the need of technical services to coordinate the dimensions recommended for various products. The American Standards Association has been handling the secretarial services for committee A62 on a limited and temporary basis, but the technical services have been outside its scope. Until a year ago, they were taken care of by the Modular Service Association; however, the funds provided by the late Albert Farwell Bemis for

this work and funds provided last year under a government contract are now exhausted.

Many of the companies which have converted for the production of modular products believe that the success of the whole undertaking is at stake. They have invested considerable money in the process but have found that a long-range program for coordination of dimensions of all building products and materials is needed to protect their investment. Architects generally are unwilling to commit themselves to use of the modular system until they are sure that building materials and products are available in the sizes they specify. Manufacturers of the materials and products, on the other hand, hesitate to undertake the expense of converting to modular sizes until they are sure that architects and builders are going to call for them in sufficient quantities to make conversion pay.

Vulcanized Fibre Standard Revised

Additional data in regard to grades, tolerances, recommended storage conditions, and important specific properties, contained in the recently approved revision of the American Standard for Vulcanized Fibre, C59.20-1949, are expected to be of definite value to manufacturers using the material.

For instance, the information as to recommended storage conditions should enable the user to avoid some of the difficulties that would otherwise be encountered in using vulcanized fibre. It is not necessary to provide expensive storage facilities, but it is desirable to avoid storing fibre under extremely damp or extremely dry conditions. With these simple precautions, the user can take advantage of the unique properties of vulcanized fibre without encountering any difficulties.

Attention is called in the new edition to an unusual property of vulcanized fibre—that of extinguishing electrical arcs such as occur in interrupting electric circuits. It not only avoids the arc tracking situation that develops when phenolic-type materials are used, but in addition tends to extinguish the arc. Important use has been made of this valuable characteristic, not only in low voltage circuits, but also in lightning arrester units and arc chutes for switches and circuit breakers in high voltage installations.

The standard also includes infor-

mation in regard to resistance to heat of vulcanized fibre. The explanation of the effect of exposure to medium high temperatures should help the engineer to design equipment with such limitations in mind and thereby use the material successfully in a wider range of applications.

One of the major difficulties in the use of vulcanized fibre has been the selection of the right grade. The section on standard grades has therefore been rewritten to make it clearer so that it will be more serviceable to the engineer called upon to make a selection.

Copies of American Standard for Vulcanized Fibre (NEMA VUI-1949; ASA C59.20-1949) can be obtained from the American Standards Association at 50 cents or from the publisher, the National Electrical Manufacturers Association.

The National Electrical Manufacturers Association is responsible for the work on this revised edition of a 1945 standard. Known as NEMA VUI-1949, it was recommended to the American Standards Association by the Sectional Committee on Electrical Insulating Materials in General, sponsored by the American Society for Testing Materials. The committee has included it as one of a series of American Standard specifications and methods of test for electrical insulating materials. Fifteen American Standards are now included in this list.

AHEA

(Continued from page 3)

Headquarters of the American Home Economics Association is in Washington, D. C. Mildred Horton, executive secretary, is in charge of the headquarters staff. President for the coming year is Dr. Marie Dye of Michigan State College. Representative of the AHEA on the Standards Council of the American Standards Association is Ardenia Chapman of the Drexel Institute of Technology.

TO the naked eye, progress in modernizing building codes may seem nonexistent. Certainly, the ear, dinned with complaints about the backwardness of codes, has heard little to indicate real progress. Patient observers, however, see "the inevitability of gradualness" clearly at work and can find some cause for cheer.

Nature of the Beast

The many-sided nature of the task must be recognized. It consists of: (1) determining the scope of essential regulation, (2) conducting research upon which defensible standards can be established, (3) determining the specific standards, (4) promulgating the standards in terms of model code provisions, (5) embodying the standard provisions in separate local codes, the last including the resolution of a number of knotty legal questions.

The roster of agencies—public, quasi-public, and private—engaged in one phase or other of this manifold assignment is a big one. From them has come a welter of recommendations, standards, and model codes, many of which have been utilized in code writing over the past decades. The diversity of contributors, however, creates a problem as great as that presented by the diversity of the country itself—and one perhaps even more difficult to resolve. Notwithstanding a commendable amount of good will and good intentions all around, jurisdictional jealousies still lurk, differences persist,

**Reprinted in abbreviated form by special permission from the September 1949 issue of Architectural Forum.*

The Modernization of Progress is being

and glaring gaps in important particulars remain. As a result, effort is wasted in jurisdictional bickering, financial support is unnecessarily diffused, research is retarded, and politicians and special interests, by playing one group or one standard against another, often block code improvement.

Taming the Lions

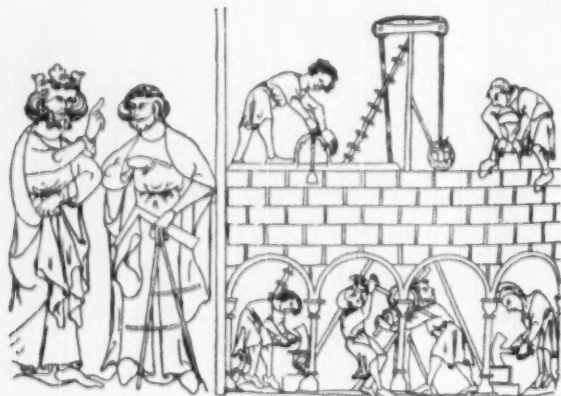
The problem is how to end this factionalism in a worthy cause. Where there are so many equals, the assumption of leadership is almost certain to be taken as an act of presumption, more likely to increase suspicion than to promote cooperation. The fear and jealousy of federal government encroachment in what, as far as regulation is concerned, is constitutionally a distinctly local matter has kept any of the federal agencies from being a rallying point. Indeed, the rival claims of several agencies to a place in the building code sun do not increase the government's prestige or make it easy for any one of them to undertake the coordinating assignment. Recognizing these circumstances, Len Haeger, able and self-effacing head of the Housing and Home Finance Agency's building code activities, has wisely chosen to work in the background and to concentrate his agency's work, in cooperation with the National Bureau of Standards, mainly on re-

search related to standards on such subjects as plumbing, condensation, nailing, flues and chimneys, light and space, exits, wind pressure, and snow loads.

Some months ago, W. E. Mallalieu, of the National Board of Fire Underwriters, grasped the prickly situation and arranged a meeting of representatives of eight of the most important agencies.¹ The purpose was to determine and, if possible, enlarge the area of agreement among the several promoters of model codes. But the area of agreement proved small. However, instead of persisting in their separate directions, the conferees decided to approach coordination by (1) attempting to agree upon a common set of definitions of the terms used in code writing, and (2) comparing the technical requirements in the various codes to determine more precisely the range of difference and the possibilities of uniformity. The second and third meetings were sufficiently promising to warrant the scheduling of a fourth in St. Louis early this fall. Mallalieu's hunch is beginning to pay off, for the establishment of amiable relations and creation of the habit of working together could eventually lead to a settling of questions of jurisdiction and distribution of functions among the main groups involved.

[Activities of this group, now known as the Joint Committee on Unification of Building Codes, are continuing and a further meeting is scheduled for New Orleans in February.]

Such an outcome would inaugurate a new era in building code progress. It is now generally agreed that a concert, rather than a concentration, of code activity is the best solution. The task ahead is clearly large enough and varied enough to require an array of talent and to allow room for all who want to take part. The present diffusion, for all its frustrations, at least encourages a cross-fertilization of ideas such as might not be encouraged under a more centralized authority. The main need now is to



From Gardiner's Student History of England, published by Longmans, Green and Company, 1908

Building operations in the reign of King Henry III with the king himself giving directions to the architect.

¹ National Bureau of Standards, National Board of Fire Underwriters, National Fire Protection Association, American Standards Association, Building Officials Conference of America, Pacific Coast Building Officials Conference, Southern Building Officials Conference, and Housing & Home Finance Agency.

Building Codes^{*}

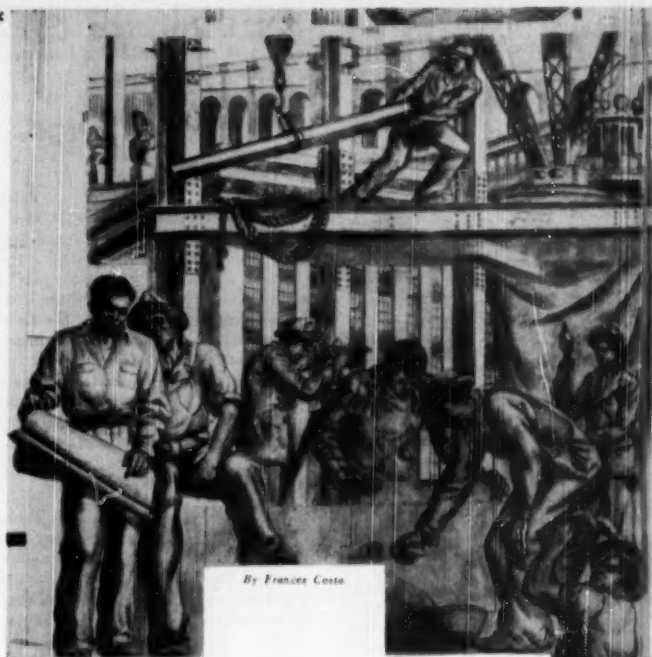
made—but slowly

decide who shall do what, for, although there is plenty for all to do, it is equally clear that each participant cannot do everything. Code promotion is a function separate from model code writing; code writing is a distinct job from the establishment of standards; and the setting of standards is again different from the research upon which standards are to be based, and from the establishment of tests by which conformity to standards is determined.

Divide and Conquer

The lines along which such a procedural agreement might be established are easily drawn. Research is for all who can afford to pay for it. Much will be done by materials manufacturers, who have been showing increasing interest in building code research—witness their efforts through the Producers' Council to bring about harmonious relationships within and among the code writing groups. The research being conducted in universities and private laboratories should, of course, continue. Where research involves the combination of several materials or operations, and where the investigations are too large and complex for otherwise qualified researchers, governmental agencies may be the best centers of activity. Under the Housing Act of 1949, major appropriations for building research will probably go to HHFA, which has indicated that it would parcel most of these out to public and private agencies equipped to do the actual work. HHFA might also speed the development of standards by providing staff personnel for American Standards Association committees and by financing coordinating sessions.

The making of standards is mainly the job of the various industry associations acting for themselves or through the American Standards Association. The American Society for Testing Materials and the National Bureau of Standards offer facilities for establishing standard testing methods, while the actual testing may be widely dispersed among governmental, academic, and private laboratories. The writing of model codes embodying the accepted standards, and the promotion of those codes locally, may be carried on by the three organizations of building



By Frances Costa

Economist Miles Colean studied one of the country's top-drawer problems, found the solution tangled in a maze of geographical variations, personal interests, and costly paper work. Problem No. 1 is the size and diversity of the country. With such special conditions of vermin and hurricanes in the south, tornados in the great plains, earthquakes in the Pacific region and heavy snows in the northern and mountain states, no single set of model code requirements can meet all conditions. Diversity, however, tends to be exaggerated as well as minimized; and the question of determining the considerable area within which standardization is possible is not a simple one.

officials, which should find it possible to agree upon geographical jurisdiction. The task of correlating all these functions might be given to the Building Research Advisory Board or to a central committee growing out of the group that Mallalieu called together.

One Successful Example

Where coordination along these general lines has been possible, as it has on a much smaller scale, the results have been successful. Masonry offers one excellent example. The elements of the industry—brick, structural tile, cement block, etc.—decided some years ago that the seeking of special building code advantages was a fruitless form of competition. Consequently, they joined in

studying sound requirements for masonry construction and, through the American Standards Association, were able to establish a national standard with which all were in agreement. The Standard, thus recognized, has been embodied in the model codes of all three of the building officials organizations; and, by way of the model codes and other forms of promotion, it has been incorporated in numerous local ordinances.

This example, while not unique, could be more frequently repeated if the procedural lines were more precisely drawn than is now the case. The most highly developed procedure for preparing model code provisions will not, however, guarantee that these provisions will be embodied in

actual municipal building codes or that the municipal codes will be periodically up-dated to reflect changes in the basic model code.

Paper Work Hurdle

The process of enacting and amending municipal codes is expensive. One big item is the cost of publishing the codes (which run from 200 to 400 pages) so that those affected may know the laws' requirements and penalties. Efforts have been made to spike this excuse for inaction by advocating a simple ordinance, incorporating model provisions merely by reference to an already published model code. Under this plan, only a brief local ordinance need be published locally, provided sufficient copies of the basic model code are made available to the public in an appropriate municipal office.

So long as this principle applies to the document in its existing form and not also to further changes, it has passed the test of constitutionality. Amendments to the municipal code to keep it up-to-date with model code revisions, may, however, be made through a new ordinance with a new reference. Already 16 states² have passed enabling legislation which permits municipalities to handle building codes in this manner. In addition, Texas and Wyoming have statutes of different types which have much the same effect. A more limited

authority to adopt codes by reference exists in New York, while the legality of such enactments has been approved in Arizona and Kentucky, where there are no enabling Acts. In Indiana and North Carolina the practice has become fairly widespread, presumably with approval of the attorney general.

This movement is one of the most important of those gradual processes by which building codes are being improved. To give it a push, the Housing and Home Finance Agency, acting in cooperation with the National Bureau of Standards, the Construction Division of the Department of Commerce, the Department of Justice, and the Council of State Governments, has prepared and issued a model "Building Codes Adoption by Reference Act."

Sign Posts

Where do we go from here? Probably pretty much along the lines that have been described. Most encouraging is the fact that individuals and organizations to which the industry must look for continued progress³ are finding it possible to sit down together and, by so doing, are allaying mutual suspicions and learning that sitting together ultimately leads to working together. Future developments worth watching: the part to be claimed by HHFA under the greatly enlarged research program authorized in the Housing Act of 1949; the place to be taken by the Building Research Advisory Board; the efforts to harmonize the activities of the three

main organizations of building officials; and the way in which the American Standards Association and the National Bureau of Standards are fitted into the general pattern.

³ National Bureau of Standards, Forest Products Laboratory, Construction division in the Department of Commerce, Housing & Home Finance Agency, Building Research Advisory Board, Pacific Coast Building Officials Conference, Building Officials Conference of America and its associated Building Officials Foundation, Southern Building Officials Conference, American Standards Association, the American Society for Testing Materials, the National Board of Fire Underwriters, numerous university and private laboratories, and many associations engaged in developing standards for individual materials such as the National Lumber Manufacturer's Association, Structural Clay Products Institute, American Iron & Steel Institute, Portland Cement Association, Gypsum Association, to name only a few.

(Note: ASA Committee Z56 has issued a pamphlet entitled *Nationally Recognized Standards in State Laws and Local Ordinances* that discusses some of the problems confronting governmental agencies that desire to make more extensive use of national standards. The model Building Codes Adoption by Reference Act mentioned above is included in this pamphlet. Copies are available from the American Standards Association at \$1.00 each.)

Role of the ASA Building Code Correlating Committee

Led by national associations and technical societies interested in building codes, sectional committees under the supervision of the Building Code Correlating Committee develop American Standards as the technical basis for building codes. Government officials, building materials manufacturers, insurance groups, safety organizations, architects, and contractors are among the interested groups who work on the committees. The American Standards they agree on—requirements for design loads, for the composition and performance of masonry, for inspection of elevators, for building exits, among others—are available to code-making authorities for reference or for adoption. Many of them are already in wide use, and the code-writing agencies—the Building Officials Conference of America, the Pacific Coast Building Officials Conference, the National Board of Fire Underwriters, and the Southern Building Codes Congress, are making increasing use of American Standards in their building codes.

The problems facing the standards-making committees, however, center around overcoming difficulties in developing standards for those building code subjects where controversies exist. Naturally, standards already developed are kept current with technological developments; witness, for example, several editions of the Building Exits Code and the National Electrical Code.

G. F. Hussey Named Managing Director

"Managing director" is the title of the head of the staff of the American Standards Association beginning January 1, 1950. Changes in the by-laws and constitution of the Association just completed now add this position and title to that of the former title of secretary. Vice Admiral G. F. Hussey, Jr. (USN, ret) has been appointed by the Board of Directors to both positions. As managing director he is responsible for the work of the staff and operations of the Association; as secretary he retains the duties of recording and certifying the actions of the Association.

An Examination of Scientific Periodicals

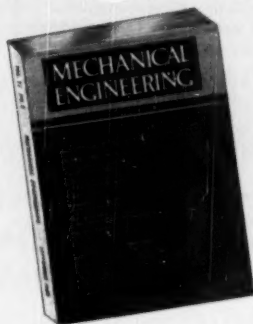
ANYONE who has to consult periodicals frequently, and particularly anyone whose duty it is to card-index articles for future reference, cannot fail to have noticed a lack of system in the arrangement of the reference data in the different journals.

National groups affiliated with the American Standards Association recognized this condition some years ago, and an American Recommended Practice, Reference Data for Periodicals, Z39.1-1935, was published by the Association in 1935 with the approval of various publishers and librarians. The code was subsequently revised by a special subcommittee, once more approved by library heads, publishers, and editors, and adopted in 1943 with the title American Standard Reference Data and Arrangement of Periodicals, Z39.1-1943.¹

The purpose of the standard is to prescribe a uniform location, in the different journals, for all important reference data, such as the date, volume, and issue, the numbering of the pages, the table of contents, and the names of authors and titles of papers (in the case of the scientific journals).

In an attempt to determine whether this method of standardization is being systematically followed in our current periodicals, the writer visited several libraries and made a literature survey. After examining more than 40 monthly periodicals ranging

¹ Developed by ASA Sectional Committee on Standardization in the field of Library Work and Documentation, Z39.1, sponsored by the American Library Association.



American Society of Mechanical Engineers

all the way from the *Atlantic Monthly* to *Popular Mechanics*, he was obliged to conclude that the publishers of these magazines either have never heard of American Standard Z39.1-1943, or that they dismiss it as something which applies only to scientific literature.

A fresh start was therefore made in a college library, where 25 journals, all on subjects of a scientific

by William H. Cady

nature (chemistry, physics, engineering, education, etc.), were examined, and the necessary data extracted and assembled. It was at once apparent that here, at least, the American Standard has not been wholly in vain, though there is still room for improvement in the use to which it has been put. The writer made no attempt to cover every item in the standard, but selected those which seemed to him to be of the most importance to the average reader.

The Title on the "Spine"—

Starting with the "spine", which might be described as the "backbone" of the journal, there has been much confusion in the past because some publishers (and this applies to books as well as magazines) print the title on the spine sideways, starting at the top and running down, while others start at the bottom, running up. On a bookshelf where both methods are used side by side, anyone attempting to read all the titles soon develops a lame neck. The American Standard has ruled that the title, volume, number, date, and page numbers of each journal shall be printed, on the spine, reading from the top down. A survey of the 25 journals reveals that 20 followed this procedure almost literally; in the other five the spine was too narrow, so the data were printed on the front cover (see also Par. 7). It should be added that all of the 25 journals are published in the United States. By contrast, some of the British journals (but not all) use the opposite system (reading up instead of down), and even the American Society for Testing Materials in its Year Books and compilations of standards—follows the same practice. Possibly the standards need to be standardized.

Data on First Text Page—

The first page of text, says the American Standard, should carry the date, volume number, and issue number. Fourteen of the 25 journals complied with this rule; four had the date only; one had the volume and issue only; six had neither. The location of the beginning of the text in each journal varied considerably: seven started the text on page 1, six on page 3, with the others scattering all the way to page 91. This is sometimes confusing for the reader, and is of course due to the presence of advertisements ahead of the text.

(Continued on the next page)



Transition

Problems In Producing The Unified Screw Thread



The Iron Age

Table of Contents—

The location of the Table of Contents should be "in a uniform place . . . preferably opposite inside of front cover." Only seven of the 25 journals followed this rule. Seven used the front cover, sometimes overflowing into the inside; three used the inside of the front cover; three used the back cover; the others had the contents variously located. Of the 25 journals, 22 followed the American Standard rule requiring date, volume, and issue on the Contents page of each issue.

Reference Data on Text Pages—

The greatest divergence from the American Standard was found in the reference data on the pages of scientific articles. The rule reads: "print author's surname and the running title of the article at top of each recto (right-hand) page." Only one of the 25 journals obeyed this rule. Eleven put the author's name at the top of the left page and the title at the top of the right page; three had the title only; one had the author only; nine had neither. The Standard also specifies that "the title of the journal, volume number, and date should appear at the top of each verso (left-hand) page." None of the journals followed this rule; ten of them had the date in various locations, sometimes accompanied by the volume number; 15 had nothing.

Numbering the Pages—

The rule requiring that the cover and contents pages shall not have page numbers is followed quite rigidly (21 out of 25).

The rule that the first page of every article shall have a number is obeyed practically 100 percent.

Data on the Front Cover—

The American Standard requires that if the volume, number, and date are printed on the front cover, they shall be at the lower edge. The great majority ignored this rule, the top of the cover being the preferred location.

Position of Page Numbers—

The American Standard specifies that the page numbers shall be "in a conspicuous and uniform place, on the upper outer corner." This is a very sensible rule, and the writer would like to see it adopted in all periodicals and books alike. Of the 25 journals, 13 follow this rule; five prefer the lower outside corner, and two use the center of the bottom.

The above review does not pretend to be complete. A similar investigation of 25 other scientific journals

might lead to somewhat different conclusions. Also each journal has an individuality of its own, which makes complete standardization difficult; and some editors resent having outsiders try to tell them how to run their affairs. However, it would appear from the data given above that some progress is being made, and perhaps, with the aid of a little publicity, more may be expected in future.

Two Booklets Issued to Help In Building Code Work

Two informative booklets just issued will be valuable to those interested in preparing and revising building codes.

Building Materials and Structures Report BMS 116, *Preparation and Revision of Building Codes* by George N. Thompson, published by the National Bureau of Standards, discusses principles and problems associated with building code requirements. Mr. Thompson was for many years chairman of the Building Code Correlating Committee, in charge of building code standards under the procedure of the American Standards Association. His work on the booklet was done with the backing and in cooperation with the BCCC. Typical subjects discussed include advantage of using national standards and ways of referring to them, methods of recognizing new materials and construction methods, the extent of delegation of authority to the building official and safeguards against arbitrary action.

Information on Sources of Material for Use in Preparing and Revising Local Building Codes is the fifth edition of a multilithed pamphlet compiled by the Building Code Correlating Committee in cooperation with the National Bureau of Standards. It was prepared in answer to numerous requests for recommended material suitable for use in preparing or revising local building codes. No opinion as to the relative merit of the material listed is expressed, and the extent to which the material should be incorporated in codes is a matter for the judgment of officials or committees undertaking state or local work.

Eventually the Building Code Correlating Committee expects to provide a complete series of building code standards prepared by sectional committees on all subjects customarily covered in building codes. In the meantime it has made this list of source material available as a help to all concerned.

Germany Loses Two Pioneers in Standardization

Word has been received of the deaths of two outstanding figures in the standards movement in Germany—Dr Fritz Neuhaus and Dr Walde-mar Hellmich.

They were founders, and for many years were the directing heads of the Deutscher Normenausschuss, the German national standards body—Neuhaus as president, and Hellmich as head of the staff.

For many years Neuhaus was executive head of the Borsig locomotive works. As a young engineer he had spent three years in this country.

Hellmich guided the Normenausschuss from its founding in 1917, until it attained national standing as an effective instrument of German industry. He was widely known, and the influence of his work extended to many other countries.

Later, Hellmich entered the chemical industry and became head of the Hoffman-LaRoche Company. But he continued to serve the Normenausschuss as honorary president.

Revision of Sheet Film Standard Now Available

Variations in film holders imported from Europe and increased South American trade in metric size film are the immediate reasons for the recent revision of the American Standard Dimensions for Professional Portrait and Commercial Sheet Film in Centimeter Sizes. The standard represents a simplification of the metric sizes and cutting tolerances for sheet film recognized as standard in the United States. The revision includes a specification which will give the possible deviations from these dimensions due to age or changes in relative humidity and therefore will indicate to the user what the dimensions will be at the time of use. This will be especially helpful to the designer of accessory equipment such as holders, as well as to the professional or commercial user of sheet film in centimeter sizes.

The original standard was of primary importance to the film manufacturer because it specified the dimensions of the film which were applicable only at the time of cutting.

The American Standard Dimensions for Professional Portrait and Commercial Sheet Film in Centimeter Sizes, Z38.1.29-1949, is one of a series of standard specifications and dimensions for photographic equipment, processes, and materials.

New Gas Appliances Covered by AGA Certification

A MERICAN STANDARD approval requirements which guide the American Gas Association in certifying the satisfactory performance of gas stoves, heaters, and similar gas-burning equipment are now extended to appliances using liquefied petroleum gas-air mixtures. Mixtures of this type are now being widely distributed, hence the inclusion of minimum approval requirements for their use in revised editions of the American Standards for gas ranges, water heaters, room heaters, and hot plates and laundry stoves. Other types of appliances will be covered later, it is planned. However, pending adoption of special requirements, these can be certified on the basis of the requirements already adopted. The new requirements became effective January 1, 1950.

New Requirements Covered

This represents only one of the revisions made recently in the gas appliance standards to meet changing practices, new applications, and advances in design techniques and fabricating methods. Specifically and in detail, gas range requirements now incorporate provisions covering single-point ignition systems, permitting lighting of top burners and oven and broiler burners from a single ignition point. Requirements covering the use of nonferrous metals for top burners of ranges and hot plates and laundry stoves have been strengthened to insure use of materials of greater durability.

Requirements for space heaters have been revised to cover new designs and uses, and the appliances are now designated as "room heaters" instead of "space heaters." This

term is considered more appropriate to the function they perform, since under the new classification these standards more sharply distinguish units intended for other than major domestic heating. Appliances intended for major heating are covered by other requirements, those for central heating appliances, for example.

Flexible Tubing

Incinerator requirements have been completely revised to cover the latest developments in household types. Extensive revisions have also been made to requirements for flexible gas tubing. These will be known in the future as "Listing Requirements on Gas Hose for Portable Gas Appliances." Any confusion with connectors of flexible metal tubing and connectors of semi-rigid tubing, which are tested under separate requirements, is thus avoided.

Current standards for gas valves now include recommended dimensional specifications for boundary and fitting points. It is expected that these will promote interchangeability through standardization and uniformity and yet permit the manufacture of special types.

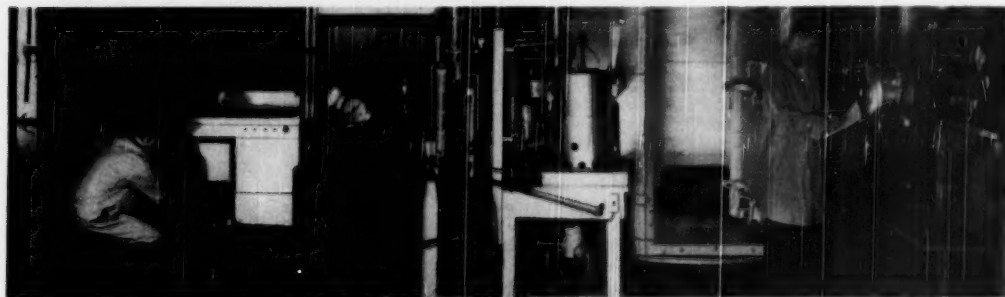
In addition to these specific revisions, the Approval Requirements Committee of the AGA, which is organized as a sectional committee under the procedure of the American Standards Association, has adopted measures to improve its standardization procedures and to streamline the operation of a number of its subcommittees. It has also approved a revision of its *Manual of Organization and Procedure for AGA Requirements Committees*, and authorized publication of the manual in a new

form conforming to the recommendations of the American Standards Association. This form will also be followed in publishing new editions of the gas appliance standards.

A new method for taking care of certification of appliances and accessories for which definite standards or requirements have not been adopted is included among the changes in procedure. Equipment such as a gas-fired weed killer, chicken brooder, or popcorn popper, for example, does not fall within any of the generic classifications of equipment for which standards already have been established. A request for approval of a popcorn popper, therefore, it has been decided, will from now on be assigned to the Subcommittee on Standardization of Requirements. The subcommittee will also be given the responsibility for formulating recommendations as to possible certification. It will also specify what approval requirements should be used, and indicate how the tests for determining compliance should be conducted. Any appliance that falls within a generic classification but which employs novel construction not covered by existing test methods will continue to be reviewed by the subcommittee responsible for the existing standards.

Commercial Cooking Equipment

It will be easier to correlate requirements for different kinds of commercial cooking appliances, as well as to give advice on the standards to be used, now that three subcommittees charged with the formulation of requirements for commercial cooking equipment have been combined into one. The three cover (1) hotel and restaurant ranges, deep fat fryers, and unit broilers; (2) gas counter appliances; and (3) portable gas baking and roasting ovens. It is planned that any changes in appliances or accessories that may af-



Analytical equipment employed in room heater and gas range testing.

Symes & Olds Company



Symes & Olds Company

Meeting of Sectional Committee Z21, held in Cleveland, Ohio, in March 1949.

fect requirements in the future will be handled by the specific group responsible for that particular appliance or accessory. The committee that formerly handled these changes has been dissolved.

Responsibility for all gas appliance requirements rests with the Approval Requirements Committee. This group is responsible to the Executive Board of the American Gas Association. As a sectional committee it is also responsible to the Board of Directors and Standards Council of American Standards Association when requirements are submitted and approved as American Standard.

The Approval Requirements Committee is a standing committee. It supervises directly the individual requirements subcommittees responsible to it. These now total 24. It makes assignments to these subgroups, exercises general control over their operations, and passes finally on all requirements developed by them.

Composition of Committee

New or revised requirements as first prepared by a subcommittee are distributed for industry criticism and then further reviewed and modified in light of comments advanced. They are then submitted to the Approval Requirements Committee for adoption and finally to the American Standards Association for acceptance as American Standard.

The Approval Requirements Committee is composed of representatives of various groups interested in gas appliance standards. Altogether, some

250 national authorities on gas, gas appliances, consumer, and general interest groups serve on this committee and its subcommittees. The main committee personnel is composed of representatives of utility companies and manufacturers of appliances as well as representatives of government bureaus, other associations, and consumer groups.

Requirements are formulated in two major groups—approval requirements and listing requirements. Approval requirements cover complete



self-contained appliances consisting of equipment which not only provides for combustion of the gas but also proper utilization of the heat developed. Listing requirements cover accessories employed in the construction and assembly of complete appliances. Examples are automatic pilots, thermostats, valves, and draft hoods. Listing requirements deal only with the accessory itself. Factors covering its relation to the appliance of which it forms a part are covered under the requirements for that specific type of appliance.

Testing of gas appliances and accessories for approval or listing is conducted by the American Gas Association through its Testing Laboratories. The main Laboratories are in Cleveland, Ohio, with their Pa-

cific Coast Branch in Los Angeles, California.

Use of Approval Seal

Approved appliances meeting all applicable requirements are required to display the registered Laboratories Approval Seal. In the case of accessories, certified models must display the registered Laboratories Listing Symbol. Appliances are approved and accessories listed for the remainder of the calendar year in which they are tested. Renewal is dependent on a satisfactory annual factory inspection to assure that the appliance or accessory is being manufactured exactly in the form tested. Such renewal may be made for not more than five years. At the end of five years, requirements then in effect must be fully met. Since requirements are periodically revised, this usually requires retest at the Laboratories.

A complete record of all currently approved and listed equipment is shown in a *Directory of Approved Gas Appliances and Listed Accessories*. This publication is issued in complete form each January and July and Supplements are published for the interim months. The *Directory* enjoys wide distribution among utility companies, manufacturers, dealers, mail order houses, and others interested in the purchase and sale of gas burning equipment.

Cooking Utensils

(Continued from page 2)

the consumer groups in developing the standard expect that consumer demand for the agreed-upon sizes will cut down the number of varieties they are called upon to produce, thus cutting production costs and eliminating the expense of slow-moving items. Retailers will also be able to stock standard sizes and satisfy customer demand without overstocking on odd sizes that remain unsold on the shelves. The new standards on sizes and measures will also allow producers of packaged foods to work out their recipes with assurance that the size pan they specify is recognized as standard and is readily available to home cooks.

The success of the new standard, however, will still stem from consumer demand. Homemakers the nation over are being asked to request the new standard sizes and measures when they buy new cooking utensils for their kitchens.

Proposed Decimal Coinage System for Union of South Africa to be Investigated*

THE Union of South Africa may adopt very shortly a decimal coinage system.

At the request of Mr Eric Louw, Minister of Economic Affairs, the Standards Council is appointing a committee to examine the various means by which our coinage can be translated to a decimal basis and to make a definite recommendation as soon as possible on what it considers to be the most practical and suitable system.

Professor R. L. Straszacker, a member of the Standards Council and Professor of Mechanical Engineering at Stellenbosch University, is to be chairman of the committee, on which the Standards Council will also be represented by Mr C. K. Wilson. The South African Bureau of Standards will be represented by its Director, Mr James Ritchie.

The Committee is likely to concentrate on consideration of two or three systems including the florin—100 cents, the £1—mil or 1000 cents (a variation of the florin—cents system) and thirdly, the crown—cents system.

In choosing a system the committee will doubtless pay consideration to a currency, which will retain as many of the present terms and usages as are practicable, and in which the basic unit represents a value such as will provide the most convenient expression of both large and small values.

The committee will also pay regard to the effect a new currency would have on the very considerable present investment in slot machines, cash registers and other machinery, designed and built to handle existing coins.

Due attention will also be paid to the importance of any new currency being quickly understood by all classes of the community, and the change being effected with a minimum of cost and delay.

Under the crown—cents system, which has found favor among many experts, the cent (or new penny) would represent $\frac{3}{4}$ th of the value of the present penny. All existing coins except the pennies and halfpennies could remain in use without any variation of purchasing power. More—



over, the terms "crowns", "half-crowns", "florins" and "shillings" could still be used as alternative names for the 100, 50, 40 and 20-cent pieces respectively.

In fact, for so long as it might be considered desirable to continue to use the existing silver coins, the present sixpenny and threepenny pieces could remain in circulation without any variation in value, although they would represent respectively ten and five cents.

The crown, with the cent as its one-hundredth part has the advantage of corresponding closely to the United States dollar and cents, whereas the committee may decide that the florin is unnecessarily small, and, in fact, too low in value to divide into 100 parts.

Mr Becklake was chairman of the decimal-committee, which was appointed by the National Anti-Waste and Conservation Organization, and which after nearly three years' work forwarded a copy of its main report to Mr Havenga as Minister of Finance early this year.

Committee Views

Regarding the evidence presented to it and its conclusions, the committee's report stated:

"A clear majority of views was in favor of a decimal system of currency, stating as reasons that such a system would have the following permanent advantages:

"A simpler and more expeditious form of trade accounting;

"A more precise and effective method of costing and pricing;

"A more readily comprehended

method of reckoning in household and other consumer monetary transactions;

"The use of a single comparatively small basic 'measure of value' (e.g., the florin), with consequent elimination of several 'measures', in the innumerable transactions of daily life (i.e., values would be expressed in 'florins' instead of in pounds and/or shillings and/or pence);

"An accurate appraisal of small price differences tending to more judicious expenditure of money; and

"An appreciable economy of time and effort in educational institutions.

"There was also a measure of opinion which, whilst in favor of the principle of decimalization and acknowledging its advantages, was unable to support positive action at the present juncture. The following were some of the reasons advanced:

"Such action should only be taken in concert with similar action by Great Britain;

"The costliness of altering and/or adjusting mechanical accounting and other machines, re-printing accounting books and forms, and issuing new interest tables, tariff books, etc.;

"Public confusion and irritation and possible exploitation of the unschooled section of the population, during the transition period; and

"Physical difficulties of the transition period, due to lack of adequate and trained personnel in large commercial, industrial, governmental and municipal undertakings.

"The Committee received no views categorically rejecting the decimal system of currency on the grounds of any inherent weaknesses per se, and those opposed were, for the most part, against the change in South Africa for the reasons mentioned above.

"In so far as these reasons are concerned, the Committee wishes to make the following observations:

"The system or nature of the domestic currency of a country does not prejudice its foreign trade as international exchange

*Reprinted in part from the March 1949 issue of the South African Standards Bulletin.

rates fluctuate even between countries using similar domestic currency systems and nomenclatures; the adoption of a decimal system of currency in South Africa would not affect the financial stability or standing of the Union either at home or abroad, and the type of currency adopted by South Africa is, therefore, purely a question of domestic choice.

"Estimates, based on facts supplied by the principal sales representatives of cash registers, accounting and other machines likely to be affected, place the cost of altering or replacing machines at approximately £5,000,000. Given adequate notice, there will be no insuperable difficulties in carrying out a change-over in from 2 to 3 years' time, particularly in view of the fact that there is a considerable backlog of orders for new machines to be filled and many of the machines in use at present are old and in need of replacement. The cost is likely to be in the neighbourhood of £10,000,000 in 10 years' time. The Committee recognises that the users of these machines would face the main burden of any change-over and that it would be inequitable further to charge that section of the community with the particular costs of a change calculated to benefit the population as a whole.

"The evidence adduced from a variety of sources has shown also that supplies of printed matter can

be so regulated that there need be no undue difficulties or waste at the time of a possible change.

"Questions as to the practicability of decimalising South Africa's currency were raised principally by the users of accounting and similar machines. From an analysis of these views, the Committee believes that subject to equitable arrangements being made for meeting the cost of replacing or adjusting the machines affected, the support of those concerned would be forthcoming.

Need Public Support

"The Committee appreciates that any change in the traditional order of things is likely to cause difficulties and inconveniences in many directions. Adequate planning on a wide scale and preparation of the public over a period of about two years should reduce to a minimum the degree of confusion at the time of a possible change-over. Judging from the widespread support for decimalisation of coinage, the Committee believes that the goodwill and co-operation of the public can be relied upon.

"Large commercial, industrial, governmental and municipal undertakings will be the bodies most directly concerned with the actual application of any new system of currency and their chief

problems will be the training and preparing of their staffs and guiding and assisting the public.

"The Committee considers that these problems can be met if sufficient time for preparation is allowed.

"The Committee sincerely appreciates the problems and objections of those on whom the main burden of a change would fall but it is gratified, however, to record that none has shown any attitude of unwillingness to accept a Governmental decision on the matter; in fact, most of the important groups, whether negative or neutral, have expressed their willingness to co-operate fully if the decision is a national one.

"The survey has clearly disclosed widespread support based on sound reasons, and a substantial majority of opinion in favour of decimalisation of currency in South Africa, in the conviction that such a step would result in far-reaching economies and other permanent advantages of great national importance to the country.

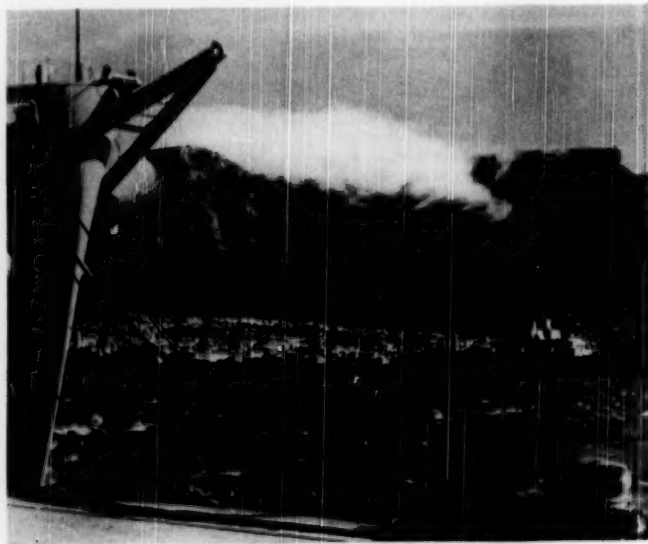
In the light of all the facts at its disposal and having the fullest regard to all the circumstances, the Committee unanimously recommends:—That the Government take the necessary steps to set up a decimal currency in South Africa.

"The Committee believes that the decimalisation of South Africa's currency, notwithstanding the temporary irksomeness of a change, will make a very material contribution to national progress.

"As far as the timing of a possible change is concerned, the Committee feels bound to observe that the decimalisation of South Africa's currency will require considerable planning and preparation over a period of two years before the actual change-over can take place and if a decision in favour of decimalisation is made, it is most desirable for the principle to be settled at the earliest possible date.

"The Committee is also convinced, in view of the progressive increase from year to year in the probable cost of a change, that if the change is not made in the very near future, the existing system will rapidly become so 'entrenched', that a change at a later date will become far more difficult and costly. The result of such delay would be that the Union would remain out of line with the majority of other countries of the African Continent, as far as its currency system is concerned. A definite lead by the Union now, may even encourage the remaining 'non-

(Continued on page 23)



Union of South Africa Government Information Office

Capetown harbor with the imposing Table Mountain in background.

THE automobile, railway, and antifriction bearing industries are represented by new members of the Board of Directors of the American Standards Association who took office January 1, 1950. Maurice Stanley, chairman of the Board of the Fafnir Bearing Company, nominated by the Anti-friction Bearing Manufacturers Association, Inc.; B. S. Voorhees, vice-president of the New York Central System, nominated by the Association of American Railroads; J. G. Vincent, vice-president, Packard Motor Car Company, nominated by the Automobile Manufacturers Association, have been named by their industries to serve on the governing Board of ASA for the next three years.

In addition, E. E. Potter, vice-president of the General Electric Company, was named by the National Electrical Manufacturers Association to complete the unexpired term of Clarence L. Collens, and



Miss Ardenia Chapman

Miss Ardenia Chapman, Dean of the College of Home Economics, Drexel Institute of Technology, Philadelphia, is completing the unexpired term of Mrs. Carol Willis Moffett as member-at-large (see STANDARDIZATION, December 1949, page 326).

Continuing on the Board for another three-year term are J. H. McElhinney, vice-president of the Wheeling Steel Corporation, nominated by the American Iron and Steel Institute, and August G. Pratt, chairman of the Board of the Babcock & Wilcox Company nominated by the American Society of Mechanical Engineers. R. Oakley Kennedy, formerly vice-president of Cluett, Peabody and Company, Incorporated, has been elected member-at-large for the next three years.

Maurice Stanley has had the responsibility for the management of the Fafnir Bearing Company for many years, as president and now as chairman of the Board. He has been prominent in his industry as president of the Anti-Friction Bearing Manufacturers Association, Inc.; as treasurer he handled the finances of the Association for ten years. He has

New Members of the Board of Directors

closely followed the standardization developments in the industry through



Maurice Stanley

the work of the Association's Engineering Committees. Standards cleared through these committees are circulated to the industry's management for final approval and acceptance.

B. S. Voorhees reports that since his work has dealt to a considerable extent with railroad construction and maintenance, the question of standardization has been of considerable importance to him. Standardization of materials used in both railroad construction and maintenance work has been an active subject for a great many years and much standardization has been accomplished in the interest of economy. He is taking an active part in activities of many national organizations, such as the American Railway Engineering Association, the Engineers Joint Council, the American Society



B. S. Voorhees

of Civil Engineers, the Eastern Railroad Presidents Conference—Committee on Competitive Transportation, Advisory Committee on Transportation of the New York City Planning Commission, and the Mayor's Committee on Port Planning, New York City. He is chairman of the committee in Opposition to the St. Lawrence Seaway of the Eastern Railroad Presidents Conference.

J. G. Vincent has worked with the Packard Motor Car Company since 1912. He comments that he considers his most important contribution to be standardization of Packard-built Rolls-Royce engine parts so they would be interchangeable

with corresponding parts in British-built engines. Colonel Vincent is credited with a leading part in the design of the Liberty Motor during World War I. He followed through in World War II by heading the engineering activity that contributed to the production of Marine Engines for the PT boats of the United States and Allied navies and Rolls-Royce engines for fighter planes and multimotored bombers. During his more than 30 years with Packard, he has actively directed all the designing, research, and other developmental work in connection with Packard's automotive, marine engine, and aircraft engine projects. The Vincent design of aircraft engine repeatedly carried the Miss America speedboats to victory in the Harmsworth races



J. G. Vincent

and established a world speedboat record of 124.915 miles per hour. Colonel Vincent has served as president of the Society of Automotive Engineers, is a director of the American Automobile Association, and president of the Automobile Club of Michigan.

E. E. Potter served with the General Electric Company first in the Lamp Department where he held a variety of executive positions. He served for many years as a member of the General Electric Appliance Sales Committee and of the Lamp Committee and as chairman of several



E. E. Potter

important committees of the Lamp Department. He has also served as a director of the General Electric Supply Company and of the General Electric X-Ray Corporation. After

(Continued on page 27)

America's safe wiring practice, as developed by the National Electrical Code

IT was 29 years ago—in 1920—that the term “American Standard” first appeared on an edition of the National Electrical Code. Since 1897, when the first edition of these recommended safe wiring practices had been published under the auspices of Underwriters National Electric Association, nearly 25 years of growth had seen the electrical industry develop from an infant to a lusty youngster. Electricity had become generally available in homes throughout the country and had already been put to wide use by industry. Many and various were the problems that arose in installing electrical wiring and appliances as a result of this rapid growth, and sad loss of life and property was the result when unsafe practices were followed. The interest in what practices were to be recommended as safe was no longer confined to one or two groups but now extended to many national organizations. On the one hand these groups were concerned with protecting the public; on the other hand with preventing prohibitive increases in costs or unnecessary restrictions on the use of new methods and equipment. The work of the National Fire Protection Association in compiling recommendations for safe installation had become recognized generally as offering a public service. (In 1913 the NFPA had taken over responsibility for the code on the disbanding

of the Underwriters National Electric Association.)

As another step in the process, however, the American Engineering Standards Committee (newly created to act as a national coordinating agency for standards) was called on as an impartial umpire in the first electrical project presented to it to attest to the fact that a consensus of all the groups concerned did exist and therefore the National Electrical Code did qualify as an “American Standard.” Manufacturers of electrical equipment and wiring whose products were affected by Code requirements, safety organizations interested in protection of life and property, government building officials responsible for enforcing local regulations for installation of wiring, power companies responsible for the installations—all had a voice through the Electrical Committee of the National Fire Protection Association in developing the Code. This was what approval by the American Engineering Standards Committee (now the American Standards Association, Incorporated) advertised to the world.

Nationally Recognized

The National Electrical Code is now nationally recognized as the authority for safe wiring practices in

Now Available

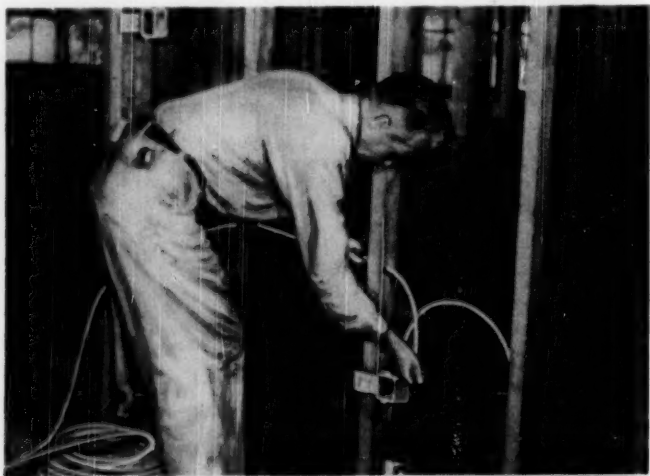
1947 National Electrical Code. NBFU Pamphlet No. 70. Standard of the National Board of Fire Underwriters for Electric Wiring and Apparatus as recommended by the National Fire Protection Association. American Standard C1-1949. Approval by the American Standards Association October 4, 1946. 10¢

Supplement to the 1947 National Electrical Code. Approved August 30, 1949, by the American Standards Association, C1A-1949. 10¢

National Fire Codes, Volume 5, National Electrical Code 1949 Printing (1947 Code incorporating 1949 supplementary revisions, Interim Amendment Number 87 and official interpretations up to January 1, 1949). Cloth bound edition for desk use published by the National Fire Protection Association. \$3.00.

the United States. Conformity with its provisions has been accepted as prima facie evidence that installations of electric wiring and apparatus provide reasonable safeguards to life and property from fire and personal injury hazards. The Code has been called the “bible” of the electrical industry and “best seller” in the field of standardization. The National Board of Fire Underwriters adopts its provisions as its standard for the installation of electrical work, and the code is published by the NBFU in the form of a handbook. Local underwriters’ boards or bureaus which operate electrical inspection departments also use the Code as their standard. Not to leave it entirely to the judgment of private individuals or organizations as to whether or not the Code’s recommendations should be followed, practically every municipality in the United States has either adopted the Code verbatim as an ordinance or uses it as a basis for its own regulations.

The Code is kept up to date by constant revision. Although the great majority of the revisions made from year to year is minor in nature, the constant checking it receives also brings it in line with new developments in industry. The 1940 edition, for instance, provided for new type insulation that made it possible to use wiring having twice the capac-



Armored Cable Section, NEMA

Safe wiring practices mean important savings of life and property.

ity of the old wiring with equal safety. This saved many millions of dollars for building owners by permitting increased electrical loads without additional circuits in office buildings and apartment houses.

Since 1920, the work on the National Electrical Code has been handled by the National Fire Protection Association's Electrical Committee organized as a sectional committee under the procedure of the American Standards Association. Now, as described by Mr Small on page 19, the National Fire Protection Association has reorganized its method of work. This procedure has been carefully reviewed by a special committee of the ASA's Electrical Standards Committee and by the ESC itself, and has been accepted as a basis for organization of work on the National Electrical Code. In accepting the procedure,

the ESC considers the Electrical Correlating Committee of the NFPA as an administrative agent for the code on behalf of the sponsor, the National Fire Protection Association.

ASA Procedure

Under ASA procedure, sectional committees sponsored by a national organization are responsible for work on a proposed American Standard. As the sectional committee for the National Electrical Code, the Electrical Standards Committee has accepted the Code-Making Panels—with each panel individually to be set up in balance as required by ASA procedure.

In line with the policy of keeping the provisions of the Code up to date, a supplement making minor revisions to the 1947 edition was approved by

the American Standards Association October 4, 1949. This supplement, known as Supplement to the 1947 National Electrical Code, American Standard C1-1949, is published as National Board of Fire Underwriters' pamphlet 70. In addition to the Code revisions approved by ASA, the pamphlet also contains interpretations of the 1947 edition issued recently by the Electrical Committee of the NFPA.

The National Fire Protection Association also has published a new edition of the 1947 standard in which the supplementary material just approved is inserted in its proper place.

Procurement

(Continued from page 6)

current use of different drafting practices. In developing the American Standard drafting practice, the peculiar needs of all industries can be recognized.

In conclusion, let me dwell on an unpopular but a most important consideration that must be faced squarely; a consideration that is inescapable, particularly when a procurement man appears on the scene and gets the floor. The flow of dollars from industry is necessarily tightening and it behooves you in standardization, as well as those in all other phases of industrial management to look to the return realized from the operating dollar. The very existence of sluggishness in funds dictates emphasis on standardization and also demands a dollar's worth of standardization for every dollar expended. In lush times we can afford the luxury of a hit-or-miss, or token effort in standardization; in lean periods we cannot afford to do without standardization.

Frequently, what appears to be dire distress is, in fact, a blessing in disguise. If business conditions require close scrutiny of our operations, whether they be standardizing, purchasing, engineering or any other service type of operation, while the justification process may be annoying and somewhat frustrating, the net result can be very fruitful. We should carefully review and evaluate our activities to be sure that such things as human inertia, resistance to change, lack of courage to explore the unknown, professional jealousies, or other human failings might not be restricting our progress. Standardization is one of the outstanding achievements of modern times.

How Work on the Code Was Reorganized

by Alvah Small

Chairman, Electrical Section,
National Fire Protection Association

Early in 1948, the National Fire Protection Association, sponsor for the National Electrical Code, ASA Project C1, announced plans for reorganizing the program for subsequent revisions of the Code (see *INDUSTRIAL STANDARDIZATION*, November 1948, page 180). The purpose was to correct, or at least improve upon, undesirable and inefficient methods of procedure that had become established in the period following the publication of the 1927 edition of the Code. During the first meeting of the new Electrical Section of the NFPA, at the annual meeting of the Association (May, 1948), the reorganization was declared operative. Participation in the activities of this section by all individuals and groups of the general membership of the Association was both authorized and encouraged. The future similar annual meetings of this Electrical Section will provide an open forum wherein all having a proper interest can present suggestions for amending the requirements of the Code, and participate in discussions of the problems involved.

Other principal features of the reorganization plan were:

- (1) The creation by NFPA of a Correlating Committee—a steering committee, and

- (2) The assignment to 17 Code-Making Panels of the provisions of the 64 Articles of the Code and the related provisions of Chapters 9 and 10.

During World War II, handling of technical and administrative problems arising from the application of the 1940 edition of the National Electrical Code was by a so-called Emergency Committee of the former Electrical Committee. The postwar revision, which in due time became the 1947 edition, was accomplished by the prewar committee organization and procedure setup. But the simplification of ways and means demonstrated by the functioning of the Wartime Emergency Plan made it evident that a change to new ways of doing old things would produce the desired consensus as well as the needed economies in administration.

Published advices of the reorganization plan and the responding activities seem to have demonstrated the feasibility of the plan and a widespread willingness to co-operate in its development. It seems justifiable, therefore, to expect that contributions of the National Electrical Code made during the previous half-century in safeguarding life and property from electrical, casualty, and fire hazards, are not to be interrupted.

Standards From Other Countries

MEMBERS of the American Standards Association may borrow from the ASA Library copies of any of the following standards recently received from other countries. Orders may also be sent to the country of origin through the ASA office. The titles of the standards are given here in English, but the documents themselves are in the language of the country from which they were received.

For the convenience of our readers, the standards are listed under their general UDC classifications.

003 Writing

Germany

Standard Stenciling Types, DIN 1456

The Netherlands

Symbols for Legal Time Units, N 360A

389 Metrology

France

Units of Measurement. Definitions, FD X02-002

Rumania

Preferred Diameters, STAS 75-49

531 Mechanics

Poland

Nominal Pressures, PN H.02650

54 Chemistry

France

Chemical Analysis of Non-Ferrous Metals and Alloys: Determination of Arsenic Contents, FD A06-501

Poland

Determination of Temperature of Cloud Print in Mixed Fuel Oils Containing Alcohol, PN C-04024

Determination of Temperature of Crystallization of Fuel, PN C-04026

Vapor Pressure Test of Benzene and Gasoline by Reid Method, PN C-04036

Determination of Content of Hard Asphalts, PN C-04072

Determination of Content of Insoluble Ingredients in Carbon Disulfide and Benzene, PN C-04082

Determination of Water Content in Petroleum Products by Distillation Method, PN C-04085

Determination of Content of Volatile Substances in Coke, PN C-04145

Rumania

Toluene, Method of Analysis of, STAS 120-49

Benzene, Determination of Vapor Pressure by Reid Method, STAS 121-49

Formaldehyde, STAS 77-49

Spain

Determination of Moisture Content in Bituminous Materials, UNE 7004

Determination of Solubility of Bituminous Materials in Carbon Sulfide, UNE 7005
Method of Test of Acetic Anhydride, UNE 7003

Union of Soviet Socialist Republics

Drinking and Industrial Water. Determination of Oxidation by Potassium Permanganate, GOST 4595-49

Drinking and Industrial Water. Determination of Lead Content, GOST 4614-49

Drinking and Industrial Water. Methods of Chemical Analysis. Determination of Sodium and Potassium Content, GOST 4774-49

614.8 Prevention of Accidents. Safety Measures

Chile

Sign for Prevention of Industrial Accidents, INDETECNOR 2.68-4

France

Motorized Fire Pumps, NF S63-101

The Netherlands

Fire-Fighting Equipment. Hook Ladder, N 1460

Fire-Fighting Equipment. Fire Hook, N 1665

615 Pharmacy. Therapeutics

Union of Soviet Socialist Republics

Hypodermic Needles, GOST 2336-48

Gynaecological Mirrors, GOST 4481-48

Surgical Sounds, Trough-Type, GOST 4487-48

Surgical Sounds, "Button"-Type, GOST 4488-48

Dental Sounds, GOST 4489-48

Surgical Chisels, GOST 4498-48; 4501-48

Dental Tool, GOST 4547-48

Vitamin A Pills, GOST 4412-48

Vitamin D Pills, GOST 4413-48

Medicinal Plaster of Paris, GOST 4746-49

Adrenalin, GOST 4778-49

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621-2 Mechanical Engineering. Fixed and Movable Parts

Germany

Round Wire Helical Springs. Formulas, DIN 2089

Formulas for Helical Torsion Springs, DIN 2088

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Union of Soviet Socialist Republics

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Germany

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United Kingdom

Light-Weight Miniature Lubricating Nipples, BS 1486:Part 3-1949

621.3 Electrical Engineering

Argentina

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Graphical Symbols for Electronic Tubes, IRAM 4005-P

Austria

Ferrule for Shackle-Insulator Type S, ONORM E4154

Ceramic Insulating Products. Tolerances, Dimensions, ONORM E7225

Ceramic Insulating Materials Used in Electrical Engineering. Grouped According to Properties, ONORM E7226

Tools for Arc-Welding, ONORM M7860

Finland

Graphical Symbols for Transformers, SFS C.I.15

Graphical Symbols for Rotary Machines, SFS C.I.16

Graphical Symbols for Rectifiers, Batteries, Accumulators, SFS C.I.17

Graphical Symbols for Measuring Instruments, SFS C.I.18

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Cable Terminal and Junction Boxes. Dimensions, SFS C.IV.31

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France

Rules for the Installation of Electrical Measuring Apparatus and Their Accessories, NF C28

Rules for the Installation of Electric Machines of Nominal Rating 600 Watts and Smaller, NF C34

Rules for the Installation of Rotary Electric Machines on Board Ship, J 72-000

Germany

Oil Draining Plug for Transformers, DIN 42551

Cylindrical Shaft Ends of Electric Machines, DIN 42943, B1.1

Pulleys for Electric Machines, DIN 42943, B1.2

Mounting Flanges of Electric Machines, DIN 42942, B1.3

Plastic Handle for Switchgear Lever, DIN 46003

Electric Wire of Rectangular Crosssection With Rounded Angles, DIN 46433

Rules for Installation of Electric Machines and Transformers on Electric Railways, etc, DIN 57535

Rules for Delayed Action Excess-Current Circuit Breaker, DIN 57665

Regulations for the Installation of Medical High-Frequency Apparatus for Diathermy, Shortwaves, etc, DIN 57751

Rules for Installation of Common Antenna for Several Receivers, DIN 57856
 Rules for Measurements on Electric Lines for Abating Radion Interferences, DIN 57873
 Telecommunication. Round Relay. Dimensions, DIN 41221, B1.1
 Self Cooling Oil Transformers With Copper Winding and Normal Induction, Three Phase, 50 Cycles per Second up to 1600 kva and 20 kv, DIN 42502, B1.1
 Self Cooling Transformers for Overhead Lines, Copper Winding and Normal Induction, Three-Phase 50 Cycles per Second. Nominal Load 12500 kva to 31500 kva, DIN 42506, B1.1
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 Rules for Testing High Voltage Open Air Insulators, DIN 57448

Switzerland

Cartridge Fuses up to 600 a, 500 v, SNV 24482
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Union of South Africa

Safety Specification for Fixed Electric Water Heaters, SABS SV1051949

Union of Soviet Socialist Republics

Pin Insulators for Telephone and Telegraph Lines, GOST 2366-49
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United Kingdom

Radio-Interference Suppression on Marine Installations, BS 1597:1949

621.8 Machine Parts. Hoisting and Conveying Machinery. Power Transmission. Means of Attachment. Lubrication

Austria

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Germany

Wall Bracket for Transmission Bearing, DIN 117
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Poland

Oval Head Machine Screws, PN M-82213/4

Rumania

Screw Threads, Nomenclature of, STAS 139-49

Switzerland

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Machine Screws With Drilled-Through Fillister Head, Partly Threaded, VSM 12403

Machine Screws With Drilled-Through Fillister Head and Undercut Shank, VSM 12405

Sheet Metal Screws. Cylindrical Head, VSM 12820

Sheet Metal Screw, Round Head, VSM 12822

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Union of Soviet Socialist Republics

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Germany

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Poland

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Rumania

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Switzerland

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Union of Soviet Socialist Republics

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629.13 Aeronautics. Aircraft Engineering

Union of Soviet Socialist Republics

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United Kingdom

Glossary of Aeronautical Terms, BS 185: Part 2-1949

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France

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Union of Soviet Socialist Republics

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Mowing Machine, Animal-Driven, Terminology, NF U30-101

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Reaping and Binding Machine, Animal-Driven, Terminology, NF U30-103

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Germany

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Argentina

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Poland

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Rumania

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Union of Soviet Socialist Republics

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663 Technical Microbiology. Beverages. Tobacco

Switzerland

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669 Metallurgy

Poland

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Rumania

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Union of South Africa

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Union of Soviet Socialist Republics

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United Kingdom

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Lead Pipes (For Other Than Chemical Purposes), BS 602-1949

Silicon in Acid-Resisting High Silicon Iron, BS 1121-Part 12-1949
Copper in Carbon and Low-Alloy Steels, BS 1121-Part 14-1949
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Acid-Resisting High Silicon Iron Castings, BS 1591-1949
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677 Textile Industry

Germany

Flax Definitions, DIN 60011
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Weaving. Different Patterns. Terminology, DIN 61110
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India

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678 Rubber Industry

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Poland

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Union of Soviet Socialist Republics

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679.5 Plastics Industry in General

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Plastic Materials of Organic Origin. Method of Testing of, GOST 4646-49 through 4651-49
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United Kingdom

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South Africa

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decimal' African States to follow the same line of progress.

"As has been indicated, a decision to decimalise South Africa's currency will have wide ramifications:

"Appropriate arrangements will have to be made for the provision of State Funds by way of loans and grants to finance the replacement and/or adjustment of accounting machines;

"Suitable steps will have to be taken to assemble the necessary skilled personnel and to provide other facilities for the alteration and installation of such machines;

"Action will be required in all educational institutions to adjust school curricula, text-books, etc;

"Facilities may have to be created at technical colleges and other institutions for assistance to personnel in industry and commerce, etc, who will be concerned with the transition period;

"The printing and provision of suitable account forms and accountancy records would require to be co-ordinated in relation to the domestic application of a decimalised currency within the various enterprises of the Union and it may be desirable to produce special 'conversion tables';

"Steps will have to be taken for the provision of new bank notes, new coins and the supply of postage and revenue stamps, etc;

"Planning and propaganda on a wide scale would be required to familiarise all sections of the public with the implications of decimalised coinage and its application to their daily lives.

"The Committee recommends: *That an official committee be appointed, representative of banking, industry, commerce, municipal undertakings, state departments and other institutions affected for the purpose of carrying out and co-ordinating the necessary preparations and of organizing appropriate education and propaganda preparatory to the change-over as well as to deal with incidental problems and details which will arise during the transition stages.*

"It is apparent that state departments as a whole are in favour of a change and would, it is felt, give a lead to the country generally in carrying out the necessary changes. The Post Office in its intimate con-

(Continued on page 25)

Book Reviews

Composition for Technical Students. By J. D. Thomas. (Charles Scribner's Sons, 597 Fifth Avenue, New York 17, N. Y., 460 pp., \$3.75)

In the foreword the author, J. D. Thomas, Assistant Professor of English at The Rice Institute, states that his book is designed for the use of technical students. "Not only engineers of technical schools, but college and university majors in every branch of natural science, pure or applied." Their special interests in composition is considered and the author hopes that the book will also find industrial acceptance.

It is a comprehensive textbook treating the fundamentals and mechanics of style, modes of discourse, research, making reports and speeches. One section of the book explains and lists the technical abbreviations from American Standard Z10.1-1941. Of these abbreviations the author says: "The system of abbreviations proposed by the American Standards Association has been so generally accepted that technical students should consider the *American Standard Abbreviations for Scientific and Engineering Terms* a necessary professional handbook."

Scientific and Technical Abbreviations, Signs and Symbols. 2nd edition. By O. T. Zimmerman and Irvin Lavine. (Industrial Research Service, Masonic Building, Dover, New Hampshire, \$8.00 in U. S. and \$9.00 outside of continental U. S.)

The authors have grouped into various fields for maximum utility, the important abbreviations, signs, and symbols used in engineering, mathematics, chemistry, physics, thermodynamics, aeronautics, radio, electronics, hydrography, topography, meteorology, astronomy, zoology, botany, medicine, communications, commerce and banking, machine and tool shops and numerous others.

The authors have drawn on American Standards for much of their material. American Standard graphical symbols, letter symbols, abbreviations, and guides to style of technical composition are included with reference to the American Standard from which they are derived. The second edition of this book includes important additions to the initial 1948 publication—new revisions of American Standards; the adoption by the U. S. Weather Bureau of the International Weather Code; and new material pertaining to military abbreviations.

Installation and Maintenance of Electric Supply and Communication Lines—Safety Rules and Discussion. National Bureau of Standards. (Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., \$1.25)

This new book of the Bureau of Standards combines the code rules on electric lines (representing Part 2 of the National Electric Safety Code, NES Handbook H32), with the discussion thereof (Handbook H39). The handbook in addition contains three appendices which present technical data useful in making computations of the strengths of supporting structures and in determining crossing clearances. Issued in a single volume for the convenience of design engineers, construction supervisors, linemen, and others who use this section of the Code.



Chemical Safety Data Sheet SD-34 on Tetrachloroethane. (Manufacturing Chemists' Association, 246 Woodward Building, Washington 5, D. C. Twenty cents per copy. Remittance should be sent with each order.)

Designed for supervisory staffs and management, this booklet presents essential information for the safe handling and use of the chemical. It details the important physical and chemical properties of the chemical; usual shipping containers and methods for their unloading and emptying; container storage and handling, and recommended personal protective equipment. Health hazards and control are covered in a section prepared by the medical advisory committee of the Association.

The Axonometric Method of Descriptive Geometry. 1949 edition. By William Henry Roeber. (Edwards Brothers, Inc., Ann Arbor, Michigan)

This book, on a little known phase of descriptive geometry, is lithographed, has a soft cover, and is amply illustrated with diagrams. The author, William Henry Roeber, is Professor of Mathematics at Washington University. The preface explains that by using the Axonometric Method it is possible with the aid of the pictorial views which this method produces, to solve, in the plane of these views, the geometric problems of space. Axonometry provides the means for teaching the making of these pictorial views.

Symposium on Lubrication of High-Speed Turbine Gear Equipment. (Technical Publication No. 92, American Society for Testing Materials, 1916 Race Street, Philadelphia 3, Pa. 32 pp. 75 cents)

Presented at a meeting of Technical Committee C of ASTM Committee D-2 on Petroleum Products and Lubricants, February 1949, this symposium includes four papers and an introduction, the latter by F. C. Linn, General Electric Company. The papers cover Lubrication of Naval Gearing, by R. T. Simpson; Developments in Gear Design and Their Lubrication Requirements, by L. J. Collins, General Electric Company; Physical Concepts of the Establishment of the Lubrication Oil Wedge and Its Associated Load-Carrying Capacity for the Mating Tooth Surfaces of High-Speed Gears, by Ernest K. Gatecombe, U. S. Naval Postgraduate School; Fundamentals of Worm Gear Lubrication, by A. R. Purdy of Socony-Vacuum Oil Company.

Measurements of Radioactivity. By Leon F. Curtiss. (National Bureau of Standards Circular 476, 84 pp, illustrated, 35 cents)

Chapters deal with such topics as detection and measurement of radioactive radiations, measurements of ionization currents, radioactive substances, equipment for producing artificially radioactive isotopes, radioactive radiations, radioactive tracers, radioactive standards and units, radioactivity in geology, and health protection.

AMERICAN STANDARDS

Status as of December 7, 1949

American Standards Approved Since November 4, 1949

Specifications for Zinc Yellow (Zinc Chromate) (ASTM D478-49; ASA K50.1-1949)

Sponsor: American Society for Testing Materials

American Standards Being Considered for Approval

By the Standards Council—

Gaging Practices for Ball and Roller Bearings, B3.4

Sponsor: Mechanical Standards Committee
Free-Cutting Bram Rod and Bar for Use in Screw Machines (Revision of ASTM B16-47; ASA H8.1-1947)

Copper Pipe, Standard Sizes (Revision of ASTM B42-47; ASA H26.1-1949)

Red Brass Pipe, Standard Sizes (Revision of ASTM B43-47; ASA H27.1-1949)

Bronze Castings in the Rough for Locomotive Wearing Parts (Revision of ASTM B66-46; ASA H28.1-1949)

Car and Tender Journal Bearings, Lined (Revision of ASTM B67-46; ASA H29.1-1949)

Copper Water Tube, (Revision of ASTM B88-48; ASA H23.1-1948)

Copper-Silicon Alloy Wire for General Purposes (Revision of ASTM B99-47; ASA H30.1-1949)

Rolled Copper-Alloy Bearing and Expansion Plates and Sheets for Bridge and Other Structural Uses (Revision of ASTM B100-47; ASA H31.1-1949)

Copper and Copper-Base Alloy Forging Rods, Bars and Shapes (Revision of ASTM B124-48; ASA H7.1-1948)

Brass Wire (Revision of ASTM B134-48; ASA H32.1-1949)

Leaded Red Brass (Hardware Bronze) Rods, Bars and Shapes (Revision of ASTM B140-47; ASA H33.1-1949)

Specifications for Slab Zinc (Revision of ASTM B6-48; ASA H24.1-1948)

Specifications for Raw Linseed Oil (Revision of ASTM D234-28; ASA K34-1937)

Specifications for Boiled Linseed Oil (Revision of ASTM D260-33; ASA K35-1937)

Sponsor: American Society for Testing Materials

Test for Burning Quality of Kerosene (ASTM D187-49; ASA Z11.17)

Test for Neutralization Value (Acid and Base Numbers) by Electrometric Titration (ASTM D664-49; ASA Z11.59)

Test for Oxidation Stability of Aviation Gasoline (Potential Gum Method) (ASTM D873-49; ASA Z11.60)

Test for Congealing Point of Pharmaceutical Petrolatums (ASTM D938-49; ASA Z11.61)

Measurement by Density of Hydrocarbon Liquids by the Pycnometer (ASTM D941-49; ASA Z11.62)

Test for Oxidation Stability of Gasoline (Induction Period Method) (ASTM D525-49; ASA Z11.63)

Test for Existent Gum in Gasoline (Air-Jet Evaporation Method) (Revision of ASTM D381-49; ASA Z11.36-1947)

Test for Vapor Pressure of Petroleum Products (Reid Method) (Revision of ASTM D323-49; ASA Z11.44-1943)

Test for Knock Characteristics of Motor Fuels by the Motor Method (Revision of ASTM D357-49; ASA Z11.37-1948)

Test for Melting Point of Petrolatum (Revision of ASTM D127-49; ASA Z11.22-1932)

Test for Color of Refined Petroleum Oil by Means of Saybolt Chromometer (Revision of ASTM D156-49; ASA Z11.33-1938)

Test for Sulfur in Petroleum Oils by Bomb Method (Revision of ASTM D129-49; ASA Z11.13-1944)

Definition of Terms Relating to Petroleum (Revision of ASTM D238-49; ASA Z11.28-1948)

Test for Tetraethyl lead in Gasoline (Revision of ASTM D526-48T; ASA Z11.48-1942)

Test for Saponification Number of Petroleum Products by Color Indicator Titration (Revision of ASTM D94-48T; ASA Z11.20-1945)

Sponsor: American Society for Testing Materials

Shutter Cable Release Tip and Socket With Taper (European) Thread, Z38.7.14 (Revision of Z38.7.14-1942)

Shutter Cable Release Tip and Socket With Straight (American) Thread, Z38.4.6 (Revision of Z38.4.6-1942)

Picture Sizes for Roll Film Cameras, Z38.4.8 (Revision of Z38.4.8-1944)

Requirements for Photographic Wetting Agents, Z38.8.14

Method for Determining Residual Thio-sulfate and Tetrathionate in Processed Photographic Papers, Z38.8.25

Lens Aperture Markings, Z38.4.7 (Revision of Z38.4.7-1943)

Sponsor: Optical Society of America

By the Board of Review—

Cast-Iron Screwed Fittings, 125 and 250 lb, B16 (Revision of B16-1941)

Sponsors: American Society of Mechanical Engineers; Manufacturers Society of the Valve and Fittings Industry; Heating, Piping and Air Conditioning National Association

Methods of Testing Antennas, IRE-1948; ASA C16.11

Methods of Testing Frequency Modulation Broadcast Receivers, IRE-1947; ASA C16.12

Methods of Testing Television Receivers (Monochrome Service, 6-Megacycle Channel), IRE-1948; ASA C16.13

Color Codes: Numerical Values, Decimal Multipliers and Tolerances, RMA GEN-101; ASA C16.14

Preferred Values for Components for Electronic Equipment, RMA GEN-101; ASA C16.15

Vibrating Interrupters and Rectifiers for Auto Radio: Frequency 115 Cycles, RMA REC-113; ASA C16.16

Sponsor: Institute of Radio Engineers

Test Code for Step-Voltage and Induction-Voltage Regulators, C57.25

Step-Voltage and Induction-Voltage Regulators, C57.15 (Revision of C57.15-1948)

Sponsor: Electrical Standards Committee

Household Automatic Electric Storage Type Water Heaters, C72

Sponsor: National Electrical Manufacturers Association

Definitions of Terms Relating to Textile Materials (Revision of ASTM D123-48; ASA L14.12-1949)

Methods of Test for Asbestos Yarns (Revision of ASTM D299-48T; ASA L14.18-1949)

Methods of Test for Woolen Yarns (Revision of ASTM D403-48T; ASA L14.21-1949)

Methods of Test for Worsted Yarns (Revision of ASTM D404-48T; ASA L14.22-1949)

Methods of Testing and Tolerances for Jute Rope and Plied Yarns for Electrical Packing Purposes (Revision of ASTM D681-48; ASA L14.44-1949)

Sponsor: American Society for Testing Materials

Safety Code for Manlifts, A90

Sponsors: American Society of Mechanical Engineers; Association of Casualty and Surety Companies

By the Board of Examination—

Letter Symbols for Aeronautical Sciences, Z10.7 (Revision of Z10.7-1930)

Sponsors: American Association for the Advancement of Science; American Institute of Electrical Engineers; American Society of Civil Engineers; American Society of Mechanical Engineers; American Society for Engineering Education

By the Building Code Correlating Committee—

Building Exits Code, A9

Sponsor: National Fire Protection Association

By the Consumer Goods Committee—

Methods of Sampling and Chemical Analysis of Alkaline Detergents (Revision of ASTM D501-46; ASA K60.21-1948)

Sponsor: American Society for Testing Materials

By the Electrical Standards Committee—

Specifications for Laboratory Standard Pressure Microphones, Z24.8

Method for the Pressure Calibration of Laboratory Standard Pressure Microphones, Z24.4

Method for the Coupler Calibration of Earphones, Z24.9

Sponsor: Acoustical Society of America

American Standards Being Considered for Reaffirmation

Test for Viscosity by Means of the Saybolt Viscosimeter (ASTM D88-44; ASA Z11.2-1944)

Test for Carbonizable Substances in White Mineral Oil (Liquid Petrolatum) (ASTM D565-45; ASA Z11.49-1945)

Test for Carbonizable Substances in Paraffin Wax (ASTM D612-45; ASA Z11.59-1945)

Conversion of Kinematic Viscosity to Saybolt Furol Viscosity (ASTM D666-44; ASA Z11.53-1944)

Sponsor: American Society for Testing Materials

Withdrawal of American War Standards Being Considered

Fixed Paper-Dielectric Capacitors (Home Receiver Replacement Type), C16.6-1943
Dry Electrolytic Capacitors (Home Receiver Replacement Type), C16.7-1943
Simplified List of Home Radio Replacement Parts (Paper and Electrolytic Capacitors, Volume Controls, Power and Audio Transformers and Reactors), C16.8-1943
Volume Controls (Home Receiver Replacement Type), C16.10-1943
Requested by: Institute of Radio Engineers
Allowable Concentration of Cadmium, Z37.5-1941
Allowable Concentration of Styrene Monomer, Z37.15-1944

Withdrawal of American Standards Being Considered

Standard Vacuum Tube Base and Socket Dimensions, C16.2-1939
Manufacturing Standards Applying to Broadcast Receivers, C16.3-1939
Requested by: Institute of Radio Engineers

Standards Submitted to ASA for Approval

Recommended Practice for Mechanical Refrigeration Installations on Shipboard, B59
Method of Rating and Testing Refrigerant Expansion Valves, B60
Approval Requested by: American Society of Refrigerating Engineers

What's Happening on Projects

Allowable Concentration of Toxic Dusts and Gases, Z37—

Sectional committee Z37 is taking a letter ballot on recommending a revision of its scope, as follows:

"To establish industrial hygiene standards for chemical, physical, and biological agents in the environment of work places from the viewpoint of the health and well being of the worker."

Also before the sectional committee is a proposal that "the Z37 committee approve a Proposed American Standard Allowable Concentration of Silica Dust" to be published and circulated for trial use and criticism.

The American War Standard Allowable Concentration of Cadmium, Z37.5-1941, and the American War Standard Allowable Concentration of Styrene Monomer, Z37.15-1944, have been sent to letter ballot of the Board of Review with the recommendation that these standards be withdrawn. The Z37 committee has agreed that the technical material contained in these war standards should be published as proposed American Standards for a period of trial use and criticism, with statements to the effect that further work and study was being continued.

Plain and Lock Washers, B27—

Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers, Inc.

A proposed revision of American Standard Lock Washers, B27.1-1944, has been

submitted to the sectional committee for letter ballot vote.

Early in 1945, industry and government services experienced serious difficulty with lock washer failure due to hydrogen embrittlement. Joint industry conferences recommended after investigation that users and producers adopt the American Standard as a corrective measure. Minor revisions were also recommended with respect to hardness range and methods of test. It was decided to prepare a revision of the 1944 standard, which revision has now been completed. The new text comprises proposals on spring lock washer and machine screw assemblies, tooth lock washers, tooth lock washer and machine screw assemblies, and spring lock washers of materials other than carbon steel, including stainless steel, phosphor bronze, silicon bronze, aluminum zinc alloy, and K-Monel metal.

Colors for Industrial Apparatus and Equipment, Z55—

Sponsor: Mechanical Standards Committee

A letter ballot has been circulated to the members of the Mechanical Standards Committee, as sponsor for ASA project Z55, on the recommendation that the proposed American Standard Gray Finishes for Industrial Apparatus and Equipment, Z55.1, be approved and submitted to the ASA for approval as an American Standard. Drafts of the proposed standard have been widely circulated to industry for comment as well as a large number of sets of color chips illustrating the four gray colors recommended.

Transmission Chains and Sprockets, B29—

Sponsors: American Society of Mechanical Engineers; Society of Automotive Engineers, Inc.

G. Y. Anderson, Jr., representing the Society of Automotive Engineers, and chief engineer of the Bucyrus-Erie Company, was elected chairman of the reorganized sectional committee, B29, at a meeting held September 13 in Detroit. H. N. Parsons, International Harvester Company, was elected vice-chairman and E. F. Riopelle, Morse Chain Company, secretary.

The committee agreed to define the scope of the project as follows: "Standards for transmission roller chains, sprockets and cutters; and study of the possibilities of standardizing the inverted tooth or silent type of transmission chains, sprockets and cutters."

Bare Electrical Conductors, C7—

Sponsor: American Society for Testing Materials

The Electrical Standards Committee approved, as of October 14, 1949, the initiation of a new project on bare electrical conductors under the sponsorship of the American Society for Testing Materials. The new project will supersede the projects on Copper Wire, H4, and Hard Drawn Aluminum Conductors, C11. The Electrical Standards Committee also approved the scope of the project, as follows:

"Specifications for metallic conductors made of wire, whether for use in uninsulated form or for subsequent use in making insulated or covered cable."

South Africa

(Continued from page 23)

tacts with the general public, in particular, could undoubtedly render invaluable assistance.

"The evidence of the Director of the Mint is to the effect that a period of two years is required for the preparation of new designs and the making of the necessary master punches, etc., as well as the manufacture of an adequate initial stock of coins of each denomination. He indicated that as a measure of economy a reduction in fineness of the silver coins from the present 800 std. to a 600 std. would be possible, but was not to be recommended. If a new decimal series of coins of similar size and weight to those now in use were decided on, the problem would be simpler and the change effected more readily.

"There is no subject upon which men's minds are more conservative and suspicious of change than currency. To obtain popular approval, a new system, however beneficial, must involve as few alterations in familiar names and standards as possible.

"It is considered in reviewing all the evidence from government departments, that the Government, as such, would, in the long run, effect very considerable economies, particularly in those instances where large-scale accounting is carried out. The late Chief Accountant of the Post Office said that in his view, there was no problem the Post Office could not solve in adopting a decimal coinage, although in his department the change would involve, in one section alone, the eventual revision of some 2,000,000 savings bank books.

"The Committee is in favour of a unit of account which will not disturb in any way the position and status of the South African 'pounds.' It is of the opinion, also, that the change-over should be effected with as few alterations to the silver and bronze coin values now used, as possible.

"It is impossible to have a single unit of account which is equally convenient for both large and small sums. The decimal system requires that only one unit of value be used. All the countries which have hitherto adopted a decimal money of account have chosen a small unit.

"The Committee favours the florin as the unit of account, as this would permit the value of the £ being undisturbed at exactly 10 times the value of the 'unit of account'. The

(Continued on the next page)

South Africa

(Continued from page 25)

determination of the unit of value was referred to by a large number of those who completed the committee's questionnaires.

"The advantages gained by setting up a decimal silver coin series of the same size and value as the existing series, more than outweighs any advantages that might otherwise be gained by altering diameters and weights.

"The Committee submits the following comments on the three alternatives:

"The 'Pound-mil' series. In this series the pound and the existing silver coins could continue in use, but the 25 mil (6d. value) the 12½ mil (3d. value) and the 10 mil (2.4d. value) pieces would in time become known by their new names. The bronze pence, half-pence, and farthings would also acquire new names (4 cents, 2 cents and 1 cent) in due course. This system has the advantage that for large sums the present method (as far as complete units are concerned) would not be altered. Its drawbacks lie in the accounting of small sums—the 'tickey' for example would need to be shown thus: '0125' and the 'penny' (i.e., the new 4 mil piece) '004'.

"The 'Florin-cent' series. In this series the unit of account being one tenth of the unit in 'Pound-mil' series, the accounting of small sums would be simpler. Thus the 'tickey' would be shown as '.125' and the 'penny' as '.04'. In this series the silver coins are shown immediately to the right of the decimal point and the bronze coins in the second decimal place. Thus '.52' represents a 50 cent piece plus a 2 cent piece. In certain instances, however, where for convenience in other ways, coins are used which are not in the true decimal series, this does not apply. (e.g., FL. 1.25 = 2/6; FL. .25 = 25 Cents = 6d.; FL. 1.25 = 12½ Cents = 3d.)

"The 'Shilling-cent' series. In this series the unit of account being one half of the unit in 'Florin-cent' series the 'cent' has the low value of half a farthing (approx.) and, therefore, would be of no practical use as a coin. For big sums the numbers to the left of the decimal point become unduly large. Thus £10,000 becomes Sh. 200,000 and for visualising such sums in pounds it becomes necessary mentally to divide the integers by two and ten."

News Briefs

• • • Electrical standardization will lose one of its active workers with the retirement of George L. Sutherland, chairman of the ASA Sectional Committee on Power Switchgear, December 1, 1949. Mr Sutherland attended the meeting of the International Electrotechnical Commission at Stresa, Italy, this last summer and served as U. S. technical advisor on proposed international standards for electrical generation and distribution equipment. Mr Sutherland has served with the Consolidated Edison Company of New York for 21 years. At the time of his retirement he was manager of the Substation Operation Department.

• • • Scheduled meetings of the International Organization for Standardization are: January 16-19, Delhi, India, ISO/TC 50—Shellac; January 16-19, Delhi, India, ISO/TC 56—Mica; and March 7-9, London, England, ISO/TC 27—Solid Mineral Fuels (Coal, Coke, etc). The ISO Journal additionally reports that Max Reichert, General Director of the Institut Belge de Normalisation, has been appointed ISO Liaison Officer with the International Dairy Federation (IDF).

• • • Following a general conference attended by national organizations interested in the subject of bakery sanitation held last June, it was decided not to undertake the initiation of a project on this subject at this time.

• • • A new Chemical Industry Correlating Committee is to be organized by the American Standards Association, following a request from the Manufacturing Chemists Association. The chemical industry needs some channel through which it can discuss its viewpoint on standardization work under way in the ASA, the Association explained. The new committee will be concerned with the items the industry uses, rather than with those it makes. Projects in which the chemical industry is particularly interested include B36, Wrought Iron and Wrought Steel Pipe and Tubing; B16, Pipe Flanges and Fittings; B31, Code for Pressure Piping.

The proposed new correlating com-

mittee will bring together the several trade associations and technical societies in the chemical industry and give them an opportunity to correlate their viewpoint on standardization problems. Questions coming before the committee will cover such problems as whether the chemical groups should participate in national standardization work, representation on sectional committees, and standardization activities covering items purchased by the industry affecting plant construction and process operations. This will represent the industry's first participation in an organized way in national standardization work through ASA procedure.

• • • Following his retirement from the United States Department of Agriculture, David J. Price, formerly chairman of ASA Sectional Committee Z12, Prevention of Dust Explosions, and member of the ASA Standards Council, accepted an invitation to serve as technical consultant to the International Association of Fire Fighters. Mr Price will aid in the study being made of explosions and fires where firemen are killed or injured. He will also act as consultant in the dust explosion and fire prevention field.

• • • Wallace Waterfall, formerly Director of Research and Product Development for the Celotex Corporation, and formerly a member of ASA Sectional Committee Z24, Acoustical Measurements and Terminology, has been appointed to the newly created position of Executive Secretary of the American Institute of Physics. Mr Waterfall has served as a member of the Institute's Governing Board since 1934 and as secretary of the Governing Board since 1945. He has also served as director of the Summary Reports Group of the Columbia University Division of Government Aided Research, as a member of the scientific staff of the Columbia University Division of War Research, and as a liaison officer for the National Defense Research Committee's Division on sub-surface warfare.

• • • The American Standard for T-Slots—Their Bolts, Nuts, Tongues and Cutters, B5.1-1941 has been slightly revised. The new edition, B5.1-1949, makes it permissible to round or break corners of the T-slots which otherwise have the same main dimensions as in the previous standard. The same statement applies to the corners of T-bolts.

Additions and Changes in List of American Standards

A9.1-1949	Building Exit Code	Under revision	E11.58-1949	Sediment in Fuel Oil by Extraction, Test for (ASTM D475-49)	.35
A10.1-1939	Manual of Accident Prevention in Construction	Under revision	E20.2-1949	Grandstands, Tents and Other Places of Outdoor Assembly, Standard for	Under revision
A37.17-1948	Making and Curing Concrete Compression and Flexure Test Specimens in the Field, Method of (ASTM C31-48; AASHTO T23-48)	Under revision	E21.1-1948	Approved Requirements for Domestic Gas Ranges, with 1949 Addenda	2.40
E1.3-1941	Screw Thread Gages and Gaging	Under revision	E31.2-1949	Listing Requirements on Gas Hoses for Portable Gas Appliances	3.00
E1.7-1949	Nomenclature, Definitions and Letter Symbols for Screw Threads	Under revision	E31.4-1932	Private Garage Heaters, Approval Requirements for	Withdrawn
E5.1-1949	T-Slots—Their Bolts, Nuts, Tongues and Cutters	.45	E31.6-1949	Approval Requirements for Domestic Gas-Fired Incinerators	1.50
E5.14-1949	Beams	1.00	E31.7-1932	Gas Heated Ironers, Approval Requirements for	Withdrawn
E16.10-1939	Face-to-Face Dimensions of Ferron Flanged and Welding End Valves	Out of print	E31.9-1948	Approval Requirements for Hot Plates and Laundry Stoves, with 1949 Addenda	1.40
E1947	Pipe Bells	Under revision	E31.10-1949	(Addenda sold separately) .409)	
E20.1-1928	Mills and Calenders in the Rubber Industry, Safety Code for (supersedes B28-1917)	1.00	E31.11-1949	Approved Requirements for Gas Water Heaters	2.00
E31.1-1942	Code for Pressure Piping, with Supplements (Supplements sold separately—B31.1a-1944 and B31.1b-1947)	Out of print	E31.14-1934	Industrial Gas Boilers, Approval Requirements for	Withdrawn
B36.10-1949	B31.1a-1944 100		E31.15-1944	Listing Requirements for Gas Valves, with 1949 Addenda	.70
C1-1946	B31.1b-1947 409)		E31.29-1941	(Addenda sold separately) 299)	
C39.20-1949	Stainless Steel Pipe	.30	E1947	Formae Temperature Limit Controls and Controls, Listing Requirements for	Out of print
C40.1-1949	National Electrical Code (NEFCU Pamphlet 76) with Supplement C1-1949	.30	E31.36-1943	Low Water Cut-Off Devices, Listing Requirements for	Withdrawn
C60.2-1949	(C1-1949 sold separately) 100)		E22		
C60.3-1949	Electron Tube Bases, Caps, and Terminals (RMA ET-105-A; NEMA 500-A)	In press	E22.4-1941	16-mm Film; Projector Sprockets	Withdrawn
C60.3-1949	Dimensional Characteristics of Electron Tubes (RMA ET-105-A; NEMA 500-A)	In press	E22.10-1941	8-mm Film; 8-Tooth Projector Sprockets	Withdrawn
C73-1941	Dimensional Characteristics of Gas Guns for Water-Cooled Transmitting Tubes (RMA ET-104; NEMA 501-A)	In press	E22.26-1941	Sensitometry	Withdrawn
C78.413/	Attachment Plugs and Receptacles	Under revision	E22.30-1941	Nomenclature	Withdrawn
C78.414/	152-Watt T-8 12-Inch Circular Fluorescent Lamp, Dimensional and Electrical Characteristics of Proposed American Standard	.25	E22.34-1949	Cutting and Perforating Negative Raw Stock (35-mm)	.25
G4.3-1949	115-Watt T-8 12-Inch Semi-Circular Fluorescent Lamp, Dimensional and Electrical Characteristics of Proposed American Standard	.25	E32.2.1-1949	Graphical Welding Symbols and Instructions for Their Use	.30
H26.1-1949	Line Coated (Galvanized) Iron or Steel Sheets, Specifications for (ASTM A93-47)	.25	E32.2.3-1949	Graphical Plumbing Symbols for Use on Drawings	.40
H27.1-1949	Copper Pipe, Standard Size, Specifications for (ASTM B42-47)	.25	E32.2.3-1949	Graphical Pipe Fittings, Valves, and Piping Symbols for Use on Drawings	.40
H28.1-1949	Red Brass Pipe, Standard Size, Specifications for (ASTM B43-47)	.25	E32.2.4-1949	Graphical Heating, Ventilating, and Air-Conditioning Symbols for Use on Drawings	.40
H29.1-1949	Bronze Castings in the Rough for Locomotive Wearing Parts, Specifications for (ASTM B56-46)	.25	E32.1.29-1949	(Dimensions for Professional Portrait and Commercial Sheet Film (Centimeter Size))	.25
H30.1-1949	Car and Tender Journal Bearings, Lined, Specifications for (ASTM B57-46)	.25	E32.4.7-1943	Lens Aperture Markings	Under revision
H31.1-1949	Copper-Silicon Alloy Wire for General Purpose, Specifications for (ASTM B59-47)	.25	E32.4.13-1944	Attachment Thread Specifications for Camera Lens Accessories	Under revision
H32.1-1949	Roller Copper-Alloy Bearings and Expansion Plates and Sheets for Bridge and Other Structural Uses, Specifications for (ASTM B60-47)	.25	E32.7.14-1949	(Lantern Slide Projectors, Specifications for)	.25
H32.1-1949	Brazed Wire, Specifications for (ASTM B64-47)	.25	E32.8.12-1949	Sound Film Processing Tanks	In press
H33.1-1949	Lead Rod Brass (Hardwax Bronze) Rods, Bars, and Shapes, Specifications for (ASTM B64-47)	.25	E32.1-1944	Projection Equipment, Sound Motion Picture, 16-mm, Class 1, Specification for (JAN-F-49)	Withdrawn
J4.1-1949	Accelerated Aging of Vulcanized Rubber by the Oxygen-Pressure Method, Method of Test for (ASTM D672-48)	.25	E32.2-1944	Test Film for Checking Adjustment of 16-mm Sound Motion Picture Projection Equipment, Specification for	Withdrawn
J5.1-1949	Accelerated Aging of Vulcanized Rubber by the Oven Method, Method of Test for (ASTM D672-48)	.25	E32.3-1944	16-mm Motion Picture Release Prints, Specification for (JAN-P-46)	Withdrawn
K35-1937	Baked Linseed Oil, Specifications for (ASTM D680-38)	Under revision	E32.6-1944	Method of Determining Picture Unsteadiness of 16-mm Sound Motion Picture Projectors	Withdrawn
K49-1941	C. P. Para Red Toner, Specifications for (ASTM D681-41)	Under revision	E32.7-1944	Method of Determining Uniformity of Scanning Beam Illumination of 16-mm Sound Motion Picture Projectors	Withdrawn
L14.12-1949	Definition of Terms Relating to Textile Materials (ASTM D123-47)	Under revision	E32.10-1944	Replaced by E22.57-1947	
L14.21-1949	Testing and Tolerances for Woolen Yarns, Methods of (ASTM D403-44)	Under revision	E32.19-1944	Loaders, Cams, and Trailers for 16-mm Sound Motion Picture Release Prints Made from 35-mm Preprint Material	Withdrawn
L16.32-1949	Testing and Tolerances for Worsted Yarns, Methods of (ASTM D404-44)	Under revision	E32.31-1945	Loaders and Trailers for 16-mm Sound Motion Picture Release Prints Made from 16-mm Original Material	Withdrawn
M10-1938	Miscellaneous Outside Coal Handling Equipment	Withdrawn	E32.45-1945	Replaced by E22.29-1945	
E2-1938	Protection of Heads, Eyes and Respiratory Organs, Safety Code for (NBS Handbook R24)	.30	E32.45-1945	Replaced by E22.43-1945	
E10.3-1949	Letter Symbols for Electrical Quantities (Supersedes Z1981-1929)	.40	E32.44-1945	Replaced by E22.29-1945	
E10.8-1949	Letter Symbols for Structural Analysis	.35	E32.45-1945	Whiteness of Projection Screens (Semi-Diffusing Reflecting Surface)	Withdrawn
E11.3-1949	Core Penetration of Lubricating Greases, Test for (ASTM D217-48)	.25	E32.46-1945	Brightness Characterization of Projection Screens (Semi-Diffusing Reflecting Surface)	Withdrawn
E11.28-1949	Terms Relating to Petroleum, Definitions of (ASTM D248-48; API 535-48)	Under revision	E32.33-1945	Pictures and Sound Synchronization Marks for 35-mm and 16-mm Sound Motion Picture Release Negatives and Other Preprint Material	Withdrawn
E11.37-1949	Method Characterization of Motor Fuel, Method of Test for (ASTM D157-48; API 532-48)	Under revision	E32.40-1946	Direct Finder Aperture for 35-mm Motion Picture Cameras	Withdrawn
E11.34-1949	Metals in Lubricating Oils, Chemical Analysis for (ASTM D1811-48)	.25	E32.69-1945	Auxiliary Finder Aperture for 35-mm Motion Picture Cameras	Withdrawn
E11.37-1949	Builder's Handbook, Lined, Iron and Copper in New and Used Lubricating Oils, Test for (ASTM D1810-48)	.35	E32.70-1945	Registration Distance and Lens Mounting Dimensions for 35-mm Motion Picture Cameras, Specification for	Withdrawn
			E40.1-1949	Horizontal Standards—Hurryy Sheet	.30
			E41.1-1949	House Cooking and Baking Utensils—Dimensions, Terminology, and Terminology for	.35

Indicates American Standards printed by ASA.

• • The American Management Association has announced publication of a book, *Progress in 7 Fields of Management—1932-1949*, which is a complete bibliography of its publications for the past 18 years. More than 600 publications are listed, covering the fields of personnel and industrial relations, insurance, marketing, office management, production, finance, and packaging.

• • Charles T. Lawson, vice-president of Nash-Kelvinator Corporation in charge of the Kelvinator Division of Sales since 1943, was elected president of the National Electrical Manufacturers Association at its Annual Meeting in Atlantic City, November 16.

Mr Lawson served with the Marine Corps during the first World War after having received B.S. degrees in both electrical and mechanical engineering at Virginia Polytechnic Institute. Before joining Kelvinator in 1939, he had held engineering and sales manager positions with Westinghouse, Day Fan Electric Company, General Motors Radio Corporation, and Frigidaire. He has been general sales manager of Kelvinator since 1941.

• • The Library of the American Standards Association has received from the Academy of Science of the USSR 27 issues of its publication *Doklady Akademii Nauk SSSR* (Reports of the Academy of Science of the USSR). These issues are dated from April 1, 1948 to December 21, 1948. Each contains a number of short scientific reports on a great variety of scientific questions, from abstract mathematical problems to practical application of research in general technology, biology, agriculture, and similar fields. All issues are in the Russian language. Copies are available for consultation at the ASA library or may be borrowed by those interested.

New Board Members

(Continued from page 17)

having been appointed commercial vice-president, Mr Potter was elected vice-president in 1945. Since that time he has been a member of the staff of Charles E. Wilson, president, and responsible for coordinating the customer relations of all departments and affiliated companies of General Electric in the District of Columbia, with headquarters in Washington, D. C.

Recent Actions on Commercial Standards

Commercial Standards are issued by the Commodity Standards Division of the National Bureau of Standards. They are voluntary standards developed through cooperation of manufacturers, distributors, and users and are made effective by means of voluntary certification of compliance by manufacturers on invoices, labels, or by grade marks on the goods themselves.

As explained by the Division, the purpose of Commercial Standards is "to establish standard methods of test, rating, certification, and labeling of commodities, and to provide uniform bases for fair competition."

Many Commercial Standards have been approved as American Standards, cleared through the nation's coordinating agency—the American Standards Association. All Commercial Standards are printed and made available by the Department of Commerce through the Government Printing Office, and the Superintendent of Documents.

Overseas Steel Products Packaging

Commercial standard R237-49, Packaging, Marketing, and Loading Methods for Steel Products for Commercial Overseas Shipments, 163 pp., 40 cents. A schedule of specifications for packaging, marketing, and loading methods for steel products is recommended as a useful standard of practice to industry.

Mineral Wool Insulation

Copies of commercial standard CS117-49, covering Mineral Wool Insulation for Heated Industrial Equipment, are now available at 15 cents per copy. This standard establishes minimum specifications for insulating heated surfaces with mineral wool for the guidance of manufacturers, distributors, installers, contractors, engineers, and users. It provides requirements and tests standards for mineral wool in the form of loose or granulated wool, felts, industrial batts, blocks or boards, pipe insulation, and insulating cement, for insulating heated industrial equipment. It also includes thicknesses of insulation required for various operating temperatures, recommended methods of installation and method of guaranteeing compliance with the standard.

Hosiery

A newly approved commercial standard covering hosiery lengths and sizes. CS46-49. Ten cents per

copy; 19 pp. The fourth edition of this standard has been expanded to include standard measurements for men's athletic socks, men's crew socks, and men's and boy's sock socks. It also provides standard methods of measuring, and lists standard sizes and lengths, with length tolerances for men's, women's and children's hosiery, thus providing a uniform basis for guaranteeing full length and full size hosiery.

Boys' Knit Underwear

The second industry-endorsement of this body measurement sizing system, CS155-49 Body Measurements for the Sizing of Apparel for Boys (For the Boys' Knit Underwear and Shirt Industries), will be issued soon by the Superintendent of Documents. This commercial standard establishes standard size designations, and body measurements, for the sizing of boys' ready-to-wear clothing for the guidance of those engaged in producing, or preparing specifications for, ready-to-wear garments and patterns. It also recommends methods of determining lengths of slacks—inseam, outseam, and true rise measurements—that correspond with the body measurements. The single range of sizes includes those classifications commonly known to the trade as Juvenile, Little Boys, Junior Boys, Prep, Big Boys, etc., but not the "Student" classification, which will be covered by a separate commercial standard.

Plumbing Fixtures

The recommended revision of Staple Vitreous China Plumbing Fixtures will be available soon as CS20-49, Vitreous China Plumbing Fixtures, (Fifth Edition).

Windows, Sash, and Screens

Commercial standard, CS163-49, Standard Stock Ponderosa Pine Windows, Sash, and Screens became effective in December. This standard establishes specifications for standard sizes, layouts, and construction of stock windows, sash, and screens; to guide producers, distributors, architects, builders, and the public. It is designed to effect economies from the producer to the ultimate user through a wider utilization of ponderosa pine stock windows, sash, and screens.

American Standards for Use on Drawings



Z32.2.1-1949 Graphical Symbols for Welding

\$.50

Welding cannot take its proper place as an engineering tool unless means are provided for conveying the information from the designer to the workmen. These symbols provide the means of placing complete welding information on drawings. The symbols contained in this 70-page publication were developed by the American Welding Society from symbols used in the United States and abroad. Sponsors: American Institute of Electrical Engineers, The American Society of Mechanical Engineers.

Z32.2.2-1949 Graphical Symbols for Plumbing

\$.40

Architects, engineers, and plumbing contractors, by the use of these symbols on their plans, will have a standard method of indication for plumbing fixtures and allied items understood by all. Confusion in the interpretations of requirements can thus be avoided. In compiling this list of plumbing symbols for use on drawings, over 200 companies and individuals in all branches of industry were contacted. Sponsors: American Institute of Electrical Engineers, The American Society of Mechanical Engineers.

Z32.2.3-1949 Graphical Symbols for Pipe Fittings, Valves, and Piping

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Clarity and simplicity were considered paramount in the assembling of these 73 symbols as a method of identification for pipe fittings, valves, piping, and allied items. Their use clarifies the interpretation of drawings. This standard represents a revision and expansion of the existing American Standard Graphical Symbols for Use on Drawings in Mechanical Engineering, Z32.2-1941. Sponsors: American Institute of Electrical Engineers, The American Society of Mechanical Engineers.

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In preparing this list of symbols for use on drawings, over 150 companies, engineers, and contractors, and their representatives were consulted. Great care was exercised to avoid conflicts with the symbols being assembled in allied fields. The air-conditioning symbols were selected from a compilation of the ASA Sectional Committee on Refrigerating Nomenclature, B53. In this 16-page publication, only those symbols about which there was a nationwide consensus, were included. Sponsors: American Institute of Electrical Engineers, The American Society of Mechanical Engineers.

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